

refuse

HOME NEWS

Social workers change policy on sending under-16s to borstal

The failure of the Government to implement its policy of sending under-16s to borstal has been highlighted by a report from the Social Workers' Association. The report, which was published yesterday, states that the Government's policy of sending under-16s to borstal is not being implemented in practice. It says that the Government's policy is to send under-16s to borstal, but that in practice, many of these children are being sent to other institutions, such as remand homes or secure training centres. The report also states that the Government's policy is to send under-16s to borstal, but that in practice, many of these children are being sent to other institutions, such as remand homes or secure training centres.

Child benefit scheme is denounced as 'robbery'

The child benefit scheme, which is being introduced by the Government, has been denounced as a 'robbery' by the Child Action Group. The group says that the scheme is a robbery because it will take away money from families who are already struggling to make ends meet. It says that the scheme will take away money from families who are already struggling to make ends meet. It says that the scheme will take away money from families who are already struggling to make ends meet.

Nurseries aid 'only a minority'

Local authorities should stop building nurseries and instead invest in community projects to help families with young children, Mrs Sandra Edwards, chairman of the Pre-school Playgroups Association, said yesterday. She said that nurseries are only a minority of the help that is needed by families with young children. She said that nurseries are only a minority of the help that is needed by families with young children.

Hot weather may be cause of motorway cracking

The hot weather may be the cause of the cracking in the motorway, according to the Department of Transport. The department says that the cracking is caused by the heat of the sun, which causes the asphalt to expand and crack. The department says that the cracking is caused by the heat of the sun, which causes the asphalt to expand and crack.

Ship blaze at Belfast

A fire on a 11,000-ton Greek freighter, the Climax Opal, in Belfast harbour yesterday, caused the evacuation of 45 crew members. The fire was caused by a fault in the ship's electrical system. The fire was caused by a fault in the ship's electrical system.

Trawler men call on foreign fleets to 'stop cheating'

Friction between British trawler owners and their continental counterparts is mounting. The British Fishing Industry Federation claims that not only are foreign vessels employing illegal and destructive fishing methods, but they are also using the resulting higher catches as a basis for claims to increase fishing quotas. The Federation claims that not only are foreign vessels employing illegal and destructive fishing methods, but they are also using the resulting higher catches as a basis for claims to increase fishing quotas.

Answers in Parliament

A periodic digest of information given in parliamentary written replies with the sources and dates on which they appeared in Hansard. The digest provides information on a wide range of topics, including health, education, and the environment. The digest provides information on a wide range of topics, including health, education, and the environment.

Middle tar cigarettes capture 70% of sales

The percentage of ex-manufacturers in Britain of cigarettes in the 10-15 mg group for the years 1973 to 1976 were: 1973, 7.2; 1974, 7.2; 1975, 7.2; 1976, 7.2. The percentage of ex-manufacturers in Britain of cigarettes in the 10-15 mg group for the years 1973 to 1976 were: 1973, 7.2; 1974, 7.2; 1975, 7.2; 1976, 7.2.

Petrol rationing: A motorist driving 10,000 miles a year paid an average of £100 a year duty on petrol and £30 a year value-added tax on petrol before the higher duties announced in the Budget.

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Murder and manslaughter: Of patients discharged into the community from Broadmoor Hospital since 1960, four were later convicted of murder and three of manslaughter. Of those, five were subject to the special restrictions in Section 41 of the Mental Health Act, 1959, at the time of their discharge from hospital.

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Prospect of saving Mentmore fades

By John Young
Planning Reporter

Hopes that Mentmore Towers might be the last moment of glory for the nation's fading last night, Lord Rosbery's offer to sell the Buckinghamshire mansion and its contents to the Government expired yesterday, and all attempts to mount a rescue operation appear to have foundered on the rocks of Treasury intransigence. The house will remain in the hands of the Rosberys, and the Government's attempt to save the mansion has failed.

The tragedy, future generations may feel, is that a fine example of Victorian gracious living will have been lost. The contents, which include much of the finest English furniture, tapestries, and a fireplace designed by Rubens for his own house in Antwerp and the only known sporting picture by Rembrandt, are to be sold at auction by Sotheby's next month.

That will be one of the sale-room events of the century, and is expected to realize up to three times the figure of £3m for which the Government could acquire the house and contents. A treasure amassed at the height of Britain's prosperity will be dispersed little more than a century later.

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A skateboarder performing a trick on a ramp, with a police officer standing nearby.

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New divorce procedure 'undermines marriage'

The new divorce procedure, which consists mainly of filling in a form, will undermine marriage and cost more, not save the taxpayer millions as forecast, it was said yesterday.

It will create an attitude of irresponsibility towards marriage, Mr Arnold Wexler, a solicitor, said at the British Legal Association's annual conference at Cheltenham, instead of treating marriage as something precious for life, people would tend to embark on it as a "licence for intercourse".

It would be like getting a television licence, then when you do not want it, you fill in a form and finish with it, said Mr Wexler, of the Councils, Greater London. The whole scheme was a piece of monumental political folly.

The scheme, which represents 3,000 solicitors, passed a resolution deploring the abolition of legal aid for undefended divorce and the possible resulting increase in government spending.

Many people, particularly women, would still need advice, and extra court registrars and other costly civil servants would have to be appointed. The new scheme was improperly devised, and the Law Society should have opposed it.

Mr C. R. Walker, of Burslem, Staffordshire, thought that it was an outrageous political decision aimed at the private lawyer.

Mr R. C. T. Beech, of Coventry, described it as a "solicitor-bashing exercise" under the guise of a money-saving scheme.

Two million 'drink too much'

Two million people in Britain regularly drink too much, Sir Bernard Braine, MP, chairman of the National Council on Alcoholism, told a conference of businessmen in Liverpool yesterday.

Almost one third of all alcohol consumed in Scotland goes down the throats of more than 300,000 people. The figures, unlike the drink, might be hard to swallow, but they were facts, he insisted.

Others were that the problem drinker was three times as likely as other workers to have an accident at work, five times as likely to be off work and much more likely to be late, particularly on Monday mornings.

Before an employer condemned his drinking workers, though, he should ask himself if he had ever got into a bad argument, had an accident, had trouble with his job, or been off work, because of drink.

The gap between being a problem drinker and an alcoholic was wide, but the stigma of alcoholism would be removed only if other people admitted they sometimes stepped over the bounds into problem drinking.

The Chancellor of the Exchequer should provide more money for alcoholism counselling services, Sir Bernard said.

BBC radio lessons in spelling

By Our Arts Reporter

A series of programmes in response to complaints about shortcomings in spelling ability is being arranged as part of the BBC's plans for adult and further education in 1977-78. The series will be broadcast on radio, complementing the successful literacy programme on television. The four 30-minute programmes have been designed largely in response to appeals from tutors involved in teaching adults to read.

They begin in December, with repeats in January, and are likely to be the forerunners of a longer series supported by a handbook. New programmes for radio and television will embrace many topics of interest to viewers and listeners at home, in addition to students. They will cover languages, golf, car maintenance, making children's clothes, running a home, and an examination of the prison system. Booklets giving more detailed information will be available in July, November and February.

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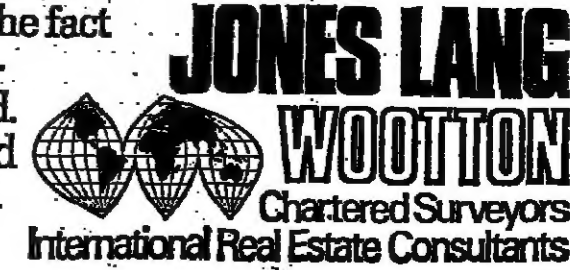


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HOME NEWS

6,700 men made idle by strike at steelworks

From Trevor Fishlock
Port Talbot

Port Talbot steelworks, one of the largest steel plants in Europe, was brought to a standstill yesterday by an unofficial strike of 5,500 electricians demanding greater recognition of their skills.

More than 6,700 men were made idle and today will start signing on for benefit at emergency offices set up in church halls.

The strikers are isolated and determined to force a satisfactory outcome of a two-year struggle for more money and status as a reward for their skills.

The management is unwilling to negotiate while an unofficial strike goes on. It feels that to give the men what they want would have damaging repercussions throughout the industry and would be outside the pay code. It does not expect an early settlement.

The works supplies steel to the motor, canning, construction and domestic appliance industries. Most customers have steel in stock and the Troscire and Velindre steelworks in South Wales, supplied by Port Talbot, according to the British Steel Corporation, is "enough steel in stock for the time being".

Should the strike go on, however, other industries and jobs will be affected. The steelworks has been producing about 45,000 tons a week, roughly three quarters of its capacity.

Four thousand white-collar staff at Port Talbot are still working, and 1,800 men are being retained to ensure that blast furnaces and coke ovens are kept hot to avert damage. The trouble at Port Talbot lies in the belief among electricians that they deserve better grading and money for the work they do.

Two years ago they presented a pay claim to the management but were told it was not possible for them to be upgraded. Ten days ago they went on strike. Mr Wyn Bevan, their works convenor said they had been forced to take action because negotiations were clearly fruitless. "We shall see this through," he said.

The mazzar is complicated because the strikers are at odds with the Electrical, Electronic, Telecommunications and Plumbing Union. Mr Bernard Clarke, its South Wales executive officer, has condemned the strike, saying it will lead to a loss of orders.

The electricians are annoyed by his comments and have passed a vote of no confidence in him. They have also rejected the Iron and Steel Trades Confederation, which has asked its men at the works not to cooperate with the strikers.

Alleged offer of brainwashing training

Yard's interest in anti-cult body

By Michael Horsnell

Scotland Yard's Special Branch is keeping an eye on an organization in west London dedicated to the overthrow of what it calls cult religious groups.

Inquiries by *The Times* reveal that the group, Peoples Organized Workgroup on Ersatz Religions (POWER), is offering to train "deprogrammers" in brainwashing techniques, which would be used against young followers as a subject for the deprogramming.

In a manual prepared by the group, which is based on techniques practised in the United States, POWER suggests that kidnapping may be a necessary first step a worried parent should take in an attempt to wean a young person from a cult he has been persuaded to join.

The parent is then recommended to hand over the young person to a trained deprogrammer, who will brainwash him against the cult, using techniques like sleep withdrawal, starvation, verbal stress, and, in some cases, shame inducement through nudity and cunnilingus.

Mr Rees, the Home Secretary, has been asked to take action against POWER after criticism by the organization of "cult" groups called *Emilia* and *Ten*, whose members are interested in the tarot cards and palmistry as investigative sciences.

Police inquiries suggest that POWER may be only a one-man organization, and there is no evidence that brainwashing techniques advocated by it have ever been used in Britain.

But there is growing concern that its general secretary, Mr Michael Rees, aged 25, who operates POWER from a flat in Ealing, west London, should say that he is in possession of a specialized knowledge of techniques that experts say could be highly effective.

Dr William Sargent, honorary consulting psychiatrist at St Thomas' Hospital, London, and

a leading British authority on brainwashing, told me: "These techniques sound very effective, if extremely crude. They are workable and very terrifying."

Dr Sargent, who recently met Miss Patricia Hearst, the American newspaper heiress who was convicted of bank robbery, at the invitation of her lawyers, told me that brainwashing techniques advocated by POWER are similar to those employed against her.

Mr Rees has recently been trying to establish a residential centre for "former cult members" and to set up POWER contacts at universities in Britain.

Vehement denials by some of those of any association with POWER suggest that Mr Rees need not be taken too seriously if it were not for his professional specialized knowledge of brainwashing.

Professor James Fairbairn, of the School of Pharmacy, London University, was named by Mr Rees as a POWER contact. He told me: "To my horror, without any consultation, my name has been included on leaflets put out by POWER."

Professor Fairbairn originally wrote to Mr Rees in response to a letter from him to the School of Pharmacy. But he was unaware of POWER's promotion of brainwashing techniques and simply offered as an active Christian worker to help any of his own students in difficulty.

POWER's nine-page manual on "deprogramming", *The Constructive Destruction of Belief: A Manual of Techniques*, states: "Deprogramming is the skilled application of any technique necessary to bring about in a subject the total rejection by him of those attitudes, beliefs, ideals and loyalties which are considered undesirable. In addition, their replacement by those qualities that are considered necessary."

It describes the need to "kidnap" a cult adherent as a first step towards "deprogramming", and advises professional "deprogrammers" on means of evading police interference.

If it goes on to advise the employment of a "deprogramming assistant" who should be "of a suitable stature and very fit" and then details complicated "deprogramming" techniques, including shame inducement through nudity.

On that the manual says: "The subject is gripped with the assistance of the assistant. Most subjects are very body conscious and having to stand naked in front of their opponents causes a person to become a temporary introvert. The assistant must also take advantage of this weakness to bring home forcefully to the subject even the smallest flaw in his physical make-up. It should be noted that the subject must be accompanied when making any visit to the toilet. Apart from this, by the way, no other hygiene is advised."

In an interview Mr Rees told me that he has trained about four deprogrammers through the use of the POWER manual and said that "several" successful deprogrammings have been carried out. He said that his decision to declare war on fringe cults began after his girl friend joined a sect called the Children of God in the West Country.

"I decided something should be done about cults," he added. "I put the manual together through information I received and I am a deprogrammer myself."

"A bright guy who picks up the training quickly can be fully trained in about a month on average. It has been practised quite openly in the United States and it is not dangerous if it is done properly, but there might be the odd occasion when it is dangerous, where the techniques are in the wrong hands."

It is not necessary for me to defend my methods. Kidnapping and some of the techniques in deprogramming are justifiable because they are part of what is necessary to get rid of the cults. Cults brainwash people and deprogramming them is a way of 'unbrainwashing' them."

Evidence is needed on the cost to industry of converting production lines and on the cost of new installations. The paper also wants some estimate of the proposed system's impact on British trading statistics.

There should be proof that the claimed safety advantages of 16-amp plugs are real and that the ergonomics of the system are satisfactory for users, particularly the disabled, it says.

The paper concludes that the case for the new system must be fought on economic grounds and that such evidence is lacking. Nor does responsibility for producing the evidence appear to be settled.

With the British Standards Institution sponsoring a conference today in London to discuss the proposed 16-amp electrical socket for international use, the National Consumer Council and the Consumers' Association have chosen the occasion to publish a background paper on the subject.

They disapprove of the proposed socket, the adoption of which would mean replacing all sockets and plugs by a new, international design.

They feel that even before consumers have finished standardizing on the 13-amp system they will have to start on the transfer to another format which may take until AD 2040 to complete.

"What we have heard so far," the council and the association say, "does not convince us that the new plug has any advantages that are worth the chaos of a changeover. Nobody has worked out in detail what it will cost. We are willing to listen to hard evidence that the proposal will benefit somebody, if it can be produced."

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WEST EUROPE

European Economic Community
ECONOMIC POLICY AND POLITICAL

Labour summit: Mr Callaghan, Herr Schmidt, the West German Chancellor, Mr Nordli, the Norwegian Prime Minister, and Herr Heinz-Oskar Veiter, head of the West German trade union federation, left to right, at a meeting

of European social democratic party leaders and trade unionists in Oslo over the weekend. At the conference Herr Schmidt said he was not going to risk expanding the German economy too fast to mop up unemployment in Europe. Other speakers, including Mr

Callaghan and Mr Nordli, argued that the stronger economies should expand faster to increase demand for goods and reduce unemployment in the area. Herr Schmidt said, however, that West Germany's top priority remained its fight against inflation.—Reuter.

Dutch hopeful of better news from decoding today of Tenerife tapes

From Sue Masterman
The Hague, April 2

The Dutch are awaiting with considerable interest the decoding of the cockpit voice recorders of the two jumbo jets involved in last Sunday's airport disaster in Tenerife.

The process begins tomorrow in the laboratories of the National Transportation Safety Board in Washington.

These recorders will prove a decisive factor in the inquiry, which should have been completed by the time the media plays an important role.

Just before the copy tape ends, the KLM aircraft had received and read back clearly its normal air traffic control clearance for its flight plan.

The Dutch believe that it is possible that control tower conversation with the Pan-American Clipper, on the same wavelength, blotted out part of the final instructions to the KLM aircraft.

This Pan-American jumbo had been told to take the third turn-off from the runway in order to clear it for the

for flights ranging from £1,200 to £2,000. Then end with silence after the control tower had given instructions to the Dutch KLM aircraft saying: "Stand by. Call you for clearance."

The end of the copy tape has led to much speculation behind the scenes in Holland and the latest Spanish and American move in what is seen here as a multi-million "back-packing" game.

In this exercise manipulation of the media plays an important role.

The 248 coffins with the remains of the Dutch passengers and crew, all of whom died in the ensuing inferno, were flown to Rotterdam this weekend.

Many relatives have been shocked by visits from representatives of American payers, who want them to sign an agreement to launch proceedings for damages against Pan-American, with a percentage of the damages obtained by fee.

The Dutch will have a lot to learn about the American way of death.

KLM take-off, but there is still confusion about which turn-off its pilot was trying to reach.

With visibility horizontally at 300ft or less, and vertical visibility almost zero, the Dutch believe he was aiming in good faith for what is, in fact, the fourth turn-off. If he had taken the third as instructed, he would never have been able to negotiate the 130-degree turn at the end on to the narrow taxi lane leading back to the runway, and would have to have been towed out.

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Judges put Señor Suárez on spot

From Our Correspondent
Madrid, April 3

The confrontation between the Spanish Government and the Supreme Court over the legalization of the Spanish Communist party—and other left-wing political parties has created a grave political crisis.

The court, according to a Communist Party statement published here today, is a "grave political crisis".

The Supreme Court was called on by the Government to decide whether the Communist Party should be legalized, together with the Carlist Party and other parties. The court declared yesterday that there were strictly administrative and not judicial decisions. It sent the papers back to the Ministry of the Interior.

The court declared its incompetence in such matters. The judiciary did not wish to become involved in taking such blatantly clear political

decisions, it said. Of course, under the late General Franco it did. But times have changed.

The court said that these decisions by the Supreme Court meant that the Government must "resolve without further delay the legalization of the Spanish Communist Party and other parties and organizations pending."

"If it does not," it said, "then the Government will have gone back on what it said in the Law for Political Reform. The legalization of the Communist Party is the touchstone of the sincerity of the democratic wishes of the Government."

If the Government does not happen, then the general elections will be put in jeopardy and the process of democracy buried.

decisions, it said. Of course, under the late General Franco it did. But times have changed.

The court said that these decisions by the Supreme Court meant that the Government must "resolve without further delay the legalization of the Spanish Communist Party and other parties and organizations pending."

"If it does not," it said, "then the Government will have gone back on what it said in the Law for Political Reform. The legalization of the Communist Party is the touchstone of the sincerity of the democratic wishes of the Government."

If the Government does not happen, then the general elections will be put in jeopardy and the process of democracy buried.

Italian terror group frees kidnapped man

From Our Correspondent
Rome, April 3

Signor Piero Costa, a member of a wealthy, powerful family, who was kidnapped in Genoa in January, was released there early today.

His captors identified themselves as the Red Brigades, an extreme leftist terrorist organization. Members of Signor Costa's family paid a ransom reported to be of about 1,500m lire (£1m).

Signor Costa, who is 42 and a senior executive in the family's shipbuilding and business empire, was found by the police in a deserted villa outside Genoa after a telephone call from his captors. The police said that he was exhausted and filthy.

Chirac fear for the Fifth Republic if left wins poll

From Our Own Correspondent
Paris, April 3

If the Union of the Left wins next year's parliamentary elections in France, it would be the end of the Fifth Republic, M Jacques Chirac, the Gaullist leader, said today.

Speaking on Radio Europe, he declared: "If the left wins there will be no more presidential elections. There will be institutional changes, changes of constitution. I have always thought that if we lost, M Giscard d'Estaing would be the last President of the Fifth Republic."

He asked: "Has a country which has switched to socialism ever returned to a normal democratic pattern?"

M Chirac, leader and founder of the Gaullist Rassemblement pour la République, claimed that if the Union of the Left—M François Mitterrand's Socialist Party and the Communist Party—would quickly establish a Marxist-type society which would be irreversible.

"If the left won, President Giscard d'Estaing would not remain in power," he added. "Meanwhile, the Socialists, who made important gains in last month's municipal elections, remain confident of victory next year."

M Mitterrand says in an interview in the latest issue of *Le Nouvel Observateur*, that whether the Socialist Party takes place in June, October or in March, the Socialist Party is ready.

Tremor revives fears in Friuli disaster area

From Our Correspondent
Rome, April 3

Another earthquake tremor shook the Friuli earthquake zone early today, sending the population in panic into the streets.

It spread fear and alarm as the earth had appeared to be settling down after the two disastrous earthquakes last year which killed about 1,000 people, devastated towns and villages and caused much of the population to leave the area.

Before today's tremor confidence was returning and people were flocking back to the area at the rate of about 500 a day. Rebuilding was beginning and the Government had promised by the end of March had been completed.

Court of Justice of the European Communities

From all this, it follows that paragraph 1) shall be interpreted to mean that if it applies to workers who are, or have been, subject to the social insurance system established by the decree of August 7, 1952, as confirmed and extended by the (Belgian) Act of Parliament of June 16, 1960.

According to Article 10 (paragraph 1, first subparagraph) of the EEC regulation, benefits acquired under the legislation of one or several member states may not be reduced, modified, suspended, extinguished or conditional on the basis of the person's residence in a member state other than that in which resides the social insurance body which serves the basis of the claimant's residence. The EEC regulation contains no clause which would exonerate from this obligation in a case such as the one under review.

From this it follows that unless there exist express provisions to the contrary, the rule of Article 10 (paragraph 1, first subparagraph) of Regulation 1408/71 applies to persons who have been granted benefits under the law of a member state relating to a wage-earning occupation exclusively served by a territorial authority, which is not a member state, even if these persons reside in a member state other than the one in which the social security institutions fall the burden to serve benefits in respect of occupations in that territory.

From all this, it follows that paragraph 1) shall be interpreted to mean that if it applies to workers who are, or have been, subject to the social insurance system established by the decree of August 7, 1952, as confirmed and extended by the (Belgian) Act of Parliament of June 16, 1960.

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TIME TO GET IMMERSED IN EUROPE'S TROUBLED WATERS?

Roy Jenkins has come to the end of his probationary period as President of the European Commission. So, from now on, he will be expected to get to grips with the job and accordingly, he will be judged on his performance.

In tomorrow's Europa, Mr Jenkins is the subject of the monthly interview. He talks in detail of his attitudes and aspirations in his new role and his answers to the immediate problems at hand.

Also, tomorrow's issue will carry a report on a man who is a millionaire and an admitted communist. In a situation that would seem to evoke hypocrisy, Jean-Baptiste Doumeng, the French chairman of Interagra has managed to combine both ideals very successfully. You can read how, tomorrow.

In addition, Europa examines a new American project to involve workers in company ownership, without putting at risk their own capital. And, at the same time, management decisions will remain in the boardroom.

Published on the first Tuesday of every month, under the editorship of Jacqueline Grapin, Europa deals with economic, financial and industrial affairs and allied social questions, as they affect the total European business Community.

Europa is written by the most respected writers in Europe and is published simultaneously with the newspapers they represent: *The Times*, *Le Monde*, *La Stampa* and *Die Welt*. Articles are up-to-date and translated into the mother-tongue immediately before publication in each of the four countries.

Altogether, Europa is a unique newspaper, the only one written exclusively for, and by, Europeans.

Make sure you read it by buying *The Times* tomorrow.

Le Monde
LA STAMPA
THE TIMES
DIE WELT

Europa

The first truly European newspaper

Local Government, Public & Educational Appointments

COMPUTER MODELLING GROUP

Petroleum Reservoir Simulation Engineers and Scientists experienced in the development of reservoir simulation software are required to a Computer Modelling Group to be established in Calgary.

The Group is being established by the Department of Energy and Natural Resources, in cooperation with the Energy Resources Conservation Board, Alberta Oil Sands Technology and Research Authority, Alberta Research Council, Petroleum Recovery Institute, The University of Calgary and Energy, Mines and Resources (Canada). It will initially be financed through funds available from the Alberta/Canada Energy Resources Research Fund. It is anticipated that interim accommodation will be provided at The University of Calgary.

The primary objective of the Group will be to provide computer modelling services in the field of sophisticated oil recovery processes including those for heavy oils and oil sands, for the government departments and agencies and the government-supported institutes cooperating in its establishment. The Group will also engage in research and development work to assist in ensuring the availability of the latest computer modelling technology applicable to the recovery of Alberta's crude oils and oil sands.

A staff of 12 to 15 creative engineers and scientists will be recruited over the next few months. It is expected the Group will begin active work July or August this year.

STAFF REQUIRED

Chief Officer (Service)

M.Sc. or Ph.D. degree in Engineering. Minimum experience 5 years in development and use of reservoir simulation programs.

Chief Officer (Research and Development)

M.Sc. or Ph.D. degree in Engineering. Minimum experience 5 years in use and development of reservoir simulation programs. Experience with thermal models particularly desirable.

Senior Engineers

Chemical or Petroleum Engineers with strong reservoir engineering/simulation background (numerical analysis, solution of partial differential equations, computer programming) essential. Engineering degree (preferably advanced) with experience 1-3 years.

Research Engineers and Scientists

Engineers and scientists with advanced degree in Computer Science, Physics or Applied Mathematics. Strong background essential in fields of: numerical solution of partial differential equations, numerical matrix algebra and FORTRAN programming.

Engineers and Scientists

Recent Engineering and Computer Science Graduates with high academic standing, strong interest in computer modelling and good FORTRAN knowledge. Some industrial experience desirable.

Salaries are fully competitive and normal staff benefits provided. Apply with complete resume and salary expectations to:-

**Dr. K. Aziz, Interim Director
Computer Modelling Group
c/o Department of Chemical Engineering
University of Calgary
CALGARY, Alberta T2N 1N4**

UNIVERSITY OF BIRMINGHAM

FACULTY OF
COMMERCE AND SOCIAL SCIENCE
DEPARTMENT OF ACCOUNTING
AND INSTITUTE OF
LOCAL GOVERNMENT STUDIES

Lectureships in Accounting

A number of vacancies for lecturers in accounting will shortly occur and applications are sought from suitably qualified graduates.

Department of Accounting

A newly established lectureship for a period of three years from October 1977 to deal with general accounting in commerce and industry.

A replacement for a Senior Lecturer in Cost Accounting in 1977.

A replacement for a Senior Lecturer in Taxation in 1977.

A replacement for a Senior Lecturer in Financial Accounting in 1977.

A replacement for a Senior Lecturer in Management Accounting in 1977.

A replacement for a Senior Lecturer in Auditing in 1977.

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UNIVERSITY OF WALES university college of swansea

Lecturer

Applications are invited for the post of Lecturer in the Department of Economics and Social Sciences. The successful candidate will be required to teach and supervise students in the following areas: Economics, Social Sciences, and Statistics.

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SCOTTISH OPERA (GLASGOW)

General Administrator

Applications in confidence for this post which will be vacant Autumn, 1977 should be sent to:

SECRETARY

SCOTTISH OPERA

39 ELMBANK CRESCENT,
GLASGOW G2 4PT

Marked confidential by 30th April, 1977.

Brighton Polytechnic

SENIOR ASSISTANT FOR

ACADEMIC AFFAIRS

Applications are invited for the above post from persons with substantial administrative experience. Duties will include responsibility for the Academic Affairs Office of the Polytechnic under the direction of the Assistant Director for Academic Affairs. The Office is at present concerned with the following areas: student recruitment, institutional research and the development of new courses, including particularly a project based on the development of a new degree programme in Business Education Council.

Salary £28,250-£34,000.

Further particulars and application form obtainable from Personnel Division, Brighton Polytechnic, Moulsecombe, Brighton, BN2 4G. Tel: 0273 698855.

MORETON HALL

Weston Rhyn, Oswestry,
Salop, SY11 3EW.

This is a key appointment within the school, the post holder of the post has overall responsibility for all aspects of the school's educational provision. The successful candidate will be required to lead and supervise the school's educational provision, including the development of new courses, including particularly a project based on the development of a new degree programme in Business Education Council.

Further details are available from the Principal to whom applications with full curriculum vitae and references should be sent. As soon as possible.

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OVERSEAS

Suspicion of US roused in Jordan as King tries to minimize dangers of peace efforts failing

From Robert Fisk, London, April 3
King Hussein of Jordan is not a man who normally espouses a conspiracy theory of history. The Palestinians, the Syrians, the Egyptians, and especially the Lebanese, have never been accused of plotting an international plot (always involving the Americans and Israelis) to frustrate their peace intentions. But last week King Hussein joined their ranks.

"International conspiracies are aimed at exposing our cause to danger and liquidation," the King said in a speech in Amman. "We are in the forefront of defending this cause and consequently we are the targets of conspiracies and reactions. It is the duty of our people to be on the alert."

Jordanian government officials leave little to doubt about the nature of the supposed plot. Confused by President Carter's references last month to a "holocaust" for Palestinian refugees and the possibility of extra-territorial Israeli defence lines, some ministers suspect the United States was set up, not on the West Bank of the Jordan river as every-thing supposed, but in Jordan itself.

In an effort to counteract Jordanian suspicions, the American embassy has sent a pamphlet containing everything Mr. Carter has said on

the Middle East since he took office to leading politicians and businessmen here.

Another cause of Arab suspicion has been the recent American press reports that King Hussein received Central Intelligence Agency funds for more than 20 years. Civil servants in Amman are claiming that these stories were deliberately put about by Americans who wished to damage the King's chances of maintaining exclusive authority in Jordan if peace negotiations get under way again at Geneva.

The theory goes that the King's power would be sufficiently weakened for him to be forced to accept a settlement for the Palestinians and Jordanians would rule a single state on the east bank of the Jordan.

More than 60 per cent of the population on the east bank are Palestinian by birth, about the original 1948 exodus. Four of the King's 19 ministers are Palestinians and the late Queen Alia was of Palestinian blood, her family coming from Nabulus.

Under the recent national service laws, every man over the age of 18 must join the Army and this includes the Palestinian refugees. Jordan's practice of giving full Jordanian passports to the entire population is the only Arab nation to bestow citizenship in this way on the Palestinians—making conflicting national identity more obscure.

Today, however, the Jordanians are allowing the Palestinians to take the initiative. While they officially regard the creation of a state in the West Bank, Gaza Strip and East Jerusalem as an essential condition for peace in the Middle East, the Jordanians are in no hurry to offer the Palestinians the chance of joining their delegation to Geneva.

The reason is that they do not want to take the blame for any failure caused by differences with the Palestinians. Conversely some Palestinian businessmen in Amman believe that a joint delegation with Jordan might prevent the Palestinians from being blamed for any breakdown in the negotiations.

King Hussein is said to be placing no high hopes on a settlement of this issue. He has repeatedly warned Jordanians of the dangers of over-optimism. He reminds diplomats that Jordan still abides by the Rabat agreement, which made the Palestine Liberation Organization the sole representative of the Palestinians.

And there are no signs that the King wants to regain personal control over his former West Bank territories should the Israelis withdraw.

There are those who believe that "moderate" Arab states like Egypt and Syria will collapse if their peace initiatives are seen to fail within the next 18 months. King Hussein is making sure that Jordan cannot go the same way.

West and East accused of lacking will to stabilize developing countries' exports

Third World sees Unctad as failure

From Alan McGregor, Geneva, April 3

A "complete failure" is how the developing countries' Group of 77 describes the results of the United Nations Conference on Trade and Development (Unctad), which has been meeting for a month in an attempt to set up a common fund to stabilize commodity prices. The conference ended early today.

Their closing statement said that they had expected at least a firm decision on establishing a fund. They blamed the lack of political will on the part of the two other groups, representing the Western industrialized nations and the communist countries.

In sharp contrast to this bleak assessment was the Western group's view that "serious negotiations" were under way and that the conference "made significant progress, broadening the areas of consensus concerning some element of a common fund".

It proved impossible in the final 48 hours of discussions to agree on even the most anodyne common wording. But no delegation objected publicly to the summing-up by Mr Herbert Walker, of Jamaica, the chairman of the conference.

It appeared to him that there was a measure of agreement on establishing a fund to finance the creation of buffer stocks for the 18 commodities, including cocoa, coffee, sugar, tin and rubber within an integrated programme worked out by the conference.

The United States delegation also affirmed that significant progress had been achieved but could not agree to a fund without a far clearer appreciation of what was involved.

While the Carter Administration had not yet set its policies, "we have advanced our own thinking at this conference", it said. The expression of Third World disillusionment is partly genuine, as the fund has come to be regarded as a vital component of a new international economic order, to be partly tactical, to keep the attention of Western governments focused on the issue while Washington settles its priorities.

Lithuania: Miss Nirole Sadunaite

By David Watts

By the time she had completed high school in 1955 Miss Nirole Sadunaite was already celebrated in her home town of Anyksciai in Lithuania because she insisted on going to Mass every Sunday. Religious persecution was an everyday occurrence for her, as was discrimination at school because of her beliefs.

Lithuania was an independent state until 1939 when the German-Soviet non-aggression pact led to its annexation by the Soviet Union. The country was, and is, predominantly Roman Catholic and religious activities have always been strong.

During the Second World War these resentments found expression through the nationalist movement and culminated in the dramatic self-immolation of Mr. Romas Kaloska, a Lithuanian student, in 1972. His death was immediately followed by student riots and demonstrations.

In the same year the first issue of a samizdat journal, *A Chronicle of the Lithuanian Catholic Church*, appeared and it was over the publication of this periodical that Miss Sadunaite fell foul of the authorities.

The journal, consisting of reports of prosecutions and harassment of Catholic clergy and believers, and human rights violations, has survived in spite of the detention of several people associated with it.

Prisoners of conscience



Miss Sadunaite was arrested in her flat in August, 1974, when a police search party found a copy of the *Chronicle* in her typewriter. When she refused to reveal anything to her interrogators, they threatened to have her put in a psychiatric hospital. She spent eight and a half months in detention before being tried.

In June, 1975, she was brought before the Lithuanian Supreme Court in Vilnius. The trial was closed and the five witnesses were ordered to leave the court as soon as they had given evidence.

Miss Sadunaite was sentenced to three years' imprisonment in a strict regime labour colony. She was sent to serve her sentence in the Mordovia colony for "especially dangerous" female offenders. The last report on her conviction said that she had fallen ill in the autumn of 1975 and had been sent to the camp hospital in February, 1976.

Fighting flares up in south Lebanon

Beirut, April 3.—Fighting flared overnight in south Lebanon. Travellers said today that artillery and machine-gun duels caused scores of casualties round the town of Bint Jbeil, only a few miles from the Israeli frontier.

Bint Jbeil is a stronghold of Lebanese leftists and Palestinians, who in recent months have been forced to give ground in the area to Lebanese rightists. Dr Saïm al-Hoss, the Lebanese Prime Minister, said on television last night that the Government was determined to press ahead with plans to restore calm to the south, where fighting has continued since the ceasefire in November that ended the civil war in most of the country.

The Government would start implementing what he called "the Lebanese interpretation" of the 1969 Cairo agreement governing Palestinian activities in Lebanon. Dr al-Hoss said this "interpretation" was signed recently by President Sarkis but Palestinians argued that it was too harsh and refused to sign it.

They said it negated effectively the Cairo agreement, which allowed limited Palestinian military activity in certain areas of south Lebanon bordering Israel.

In the south it was reported yesterday that rightist militiamen, said to be supported by Israeli artillery, had pushed ahead with a major offensive aimed at capturing the entire region along the frontier with Israel.

Travellers arriving in Sidon from the frontier area said fierce fighting was raging for Aytaun, the southernmost in a string of villages along the frontier with Israel which the rightists claim to have taken during the week.

The travellers reported ferocious ground fighting on the outskirts of Aytaun. Sources in the south, as well as in Beirut, reported that rightist and forces of Lebanon's leftist-Palestinian alliance were also locked in a battle for Taybeh, 10 miles north of Aytaun.

Palestinian sources in Beirut reported heavy artillery duels across the Litani river, between leftist-Palestinian positions, near the ancient Beaufort crusader castle, and the towns of Marjayoun and Kleya.

The Litani is believed widely to form the undefined "red line" beyond which Israel has said it would not tolerate any non-Lebanese Arab forces.—Reuter.

Surprise delay in Kenya of ruling party's elections

From Our Correspondent, Nairobi, April 3

In a surprise announcement, the ruling Kenya African National Union has postponed indefinitely the national party elections which were due to take place today.

Party headquarters said the postponement was "due to unavoidable circumstances beyond our control". Delegates who had arrived in Nairobi from all parts of Kenya were told to return home.

Lack of information about the reason for the postponement aroused speculation about the health of President Kenyatta, who is 85 and was to preside at the meeting. It would have been the first

Kanu national election for 10 years. Local branch elections had been completed and branch delegates were to have chosen their national officials today.

Mr Oginga Odinga, former Vice-President of Kenya, was barred from standing for election as party vice-president, together with other former members of his short-lived opposition party, the Kenya People's Union, which was dissolved in 1969 when Mr Odinga was detained for two years for alleged subversion.

Mr Odinga challenged the validity of this ruling and said he had returned to Kanu on his release from detention in 1971.

Six Addis Ababa murderers shot in public

Addis Ababa, April 3.—Ethiopia's ruling military council has publicly executed by firing squad six men found guilty of the "inhuman murder of 24 persons".

Thousands of cheering spectators crowded on to the hills on the outskirts of Addis Ababa to see the execution yesterday, the first held in public since the military rulers deposed the late Emperor Haile Selassie in 1974.

Among the six executed was Girma Kebede, chairman of one of the urban dwellers' associations known as "Kabeles". He and his five followers were arrested a week ago.—AP.

Spanish reporter detained by Prague police

Prague, April 3.—A Spanish journalist said today that he was detained for 10 and a half hours by Czechoslovak police for trying to interview a prominent dissident.

Señor Vicente Pomero, of the Spanish official trade union daily *Pueblo*, said he was arrested yesterday at the front door of Mr Zdenek Mlynar, a former Communist Party secretary, who is under constant police guard. He was taken to a police station near by.

Señor Pomero was leaving Czechoslovakia tonight as arranged earlier.—Reuter.

Vietnam builds airfield on disputed island

From Our Correspondent, Hongkong, April 3

The Vietnam Government has built a military airfield on one of the western Spratly Islands which are claimed by China as part of its "sacred soil".

According to intelligence sources in Hongkong, the military garrison on the island—identified on Vietnamese and international maps as Prata—has been doubled to more than an estimated 300 men since the collapse of the former South Vietnam Government.

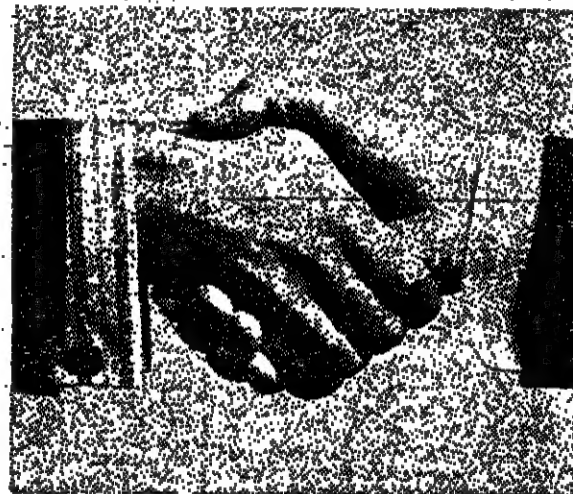
So far there has been no official reaction from Peking to this latest defiance of Chinese claims.

China has established an airfield and military garrison on the Prata Island group, farther north in the South China Sea, which Chinese forces occupied in the closing stages of the war and which the new Vietnamese Government, like the old anti-communist one, insists is Vietnamese territory.

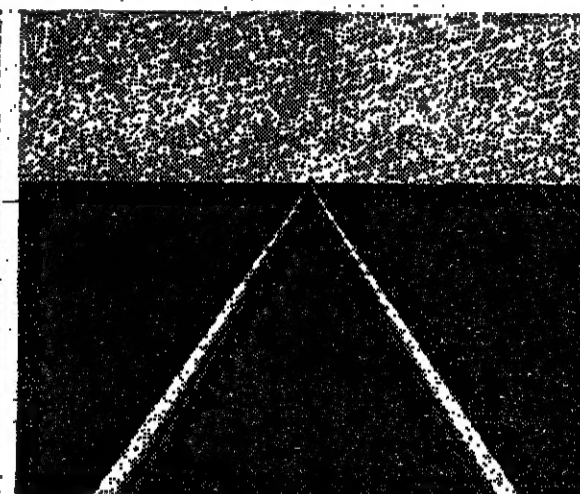
The Soviet Union has publicly endorsed the Vietnamese claims to both the Prata and the Spratly Islands.

The Philippines Government has also built an airfield on one of eastern Spratly Islands which it claims as Philippines territory and which are now the centre of offshore oil exploration.

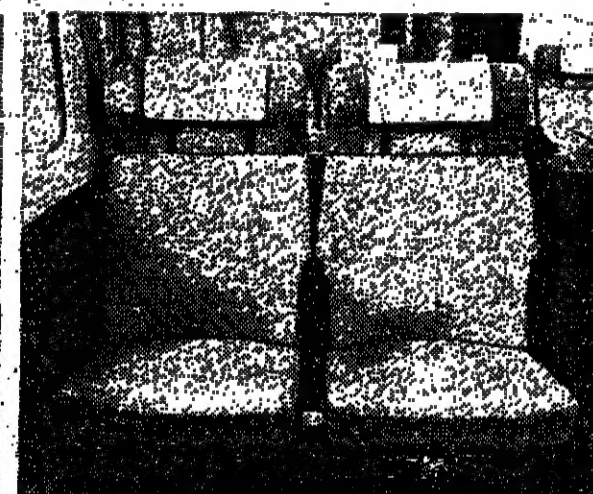
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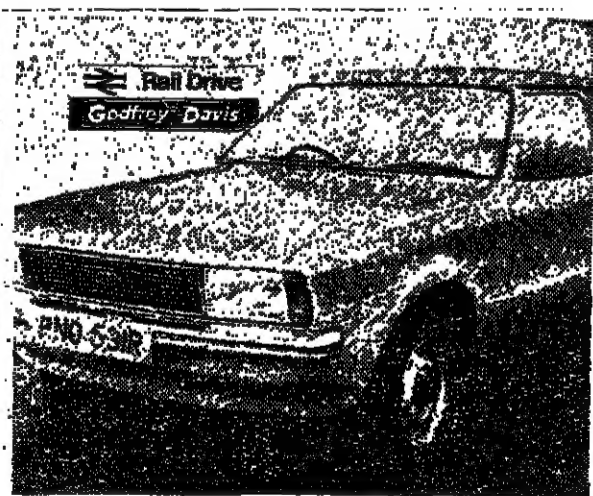
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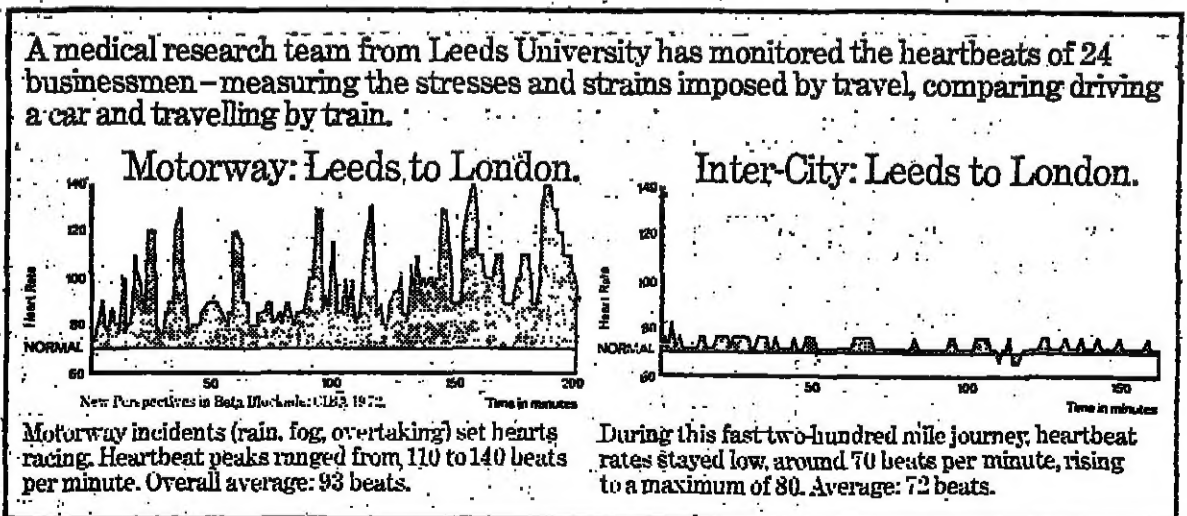
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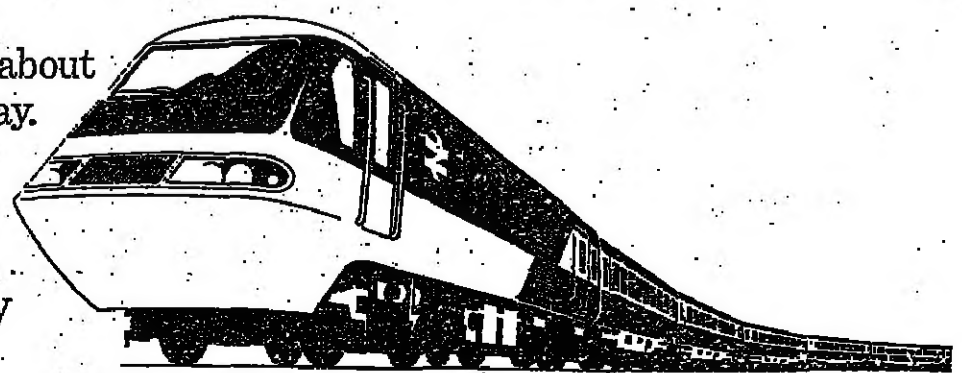
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Inter-City makes the going easy

Liverpool's winning flair should carry them through to final

no problem playing twice a week when you are doing as well as we are. Liverpool should be able to overcome Zurich he, at least, will not blame the oft criticized system. Liverpool's advantage over many of their league rivals is that they have a team that can win over Leeds almost leisurely 3-1 win over Leeds at Anfield was carried out without Toshack, Thompson and Callaghan.

They hope to have Callaghan back in the Liverpool team and for the important meeting with Manchester City. After playing at Anfield on Saturday Kevin Keegan said that he was "in awe" of Ipswich Town and commented: "I wish there was nothing to worry me." City often give that impression, but they are not a team with an erratic and bad tempered team could challenge for the leadership. They have, of course, several players who are not the astoundingly improved goalkeeper Corrigan.

A display that silenced the Kop

Leeds goalkeeper, was within an inch or two of saving.

Until then Leeds had kept Kennedy's goal so tight and used the surprising amount of space that Liverpool gave them. But Kennedy was again superb, his reflexes were quick and his efficiency in midfield was as influential. Fairclough's more eye-catching performance in the front line showed up quite quickly after the first, this time Fairclough giving a cross-shot from Case the lightest touch with his head into the far corner.

Liverpool cruised back to normality. Leeds showed no passion and, without Clarke, lacked the attacking spark which they had totally Liverpool's, especially after Highway headed the third goal after a superb move in which Kennedy was superbly effective. He was generously allowed by the lethargy of Leeds.

Altmire leapt the crowds away before half-time. It was as if the most loyal supporters realised that the game was in safe hands and, from the outside, they would not have noticed the beginning of annoyance when McQueen headed a goal for Leeds in the 89th minute. The new arrival, goal keeper, requires 90-minute concentration.

LIVERPOOL: H. Clemence; P. Neal, J. Jones, G. Smith, R. Kennedy, S. Dalglish, A. Brown, M. Walters, C. Highway, D. Fairclough, T. McDer-

LEEDS UNITED: D. Shawart, W. Stevenson, P. Medley, F. Jock, B. Currie, G. Lister, I. Fraser.

Watson's best too good for Ipswich

by Henry in midfield angered City's supporters, but had no other noticeable effect. One lapse was a poor pass from the left half-point-blank chance which he contrived to scoop over the bar. So the scene was set for a dramatic finish, but the game was scarcely worthy.

Allowance should be made for the fact that Osherson and Boyle were playing their last game for one side, and for the capricious conditions. A few sharp showers and a swift change made good ground for the hustling tactics which forced players into hurried, unconsidered and consequently ineffective decisions.

The day's dissatisfaction was the number of midfield players who found it easier to deny than to admit. It took again for positive thinking.

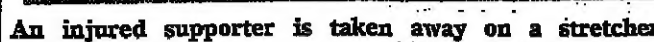
MANCHESTER CITY: J. Goughan; W. Wilson; D. Williams; C. Wilson; D. Watson; G. Kerrigan; R. Whelan; E. McManis; M. McGee; J. A. Smith; P. Thompson; P. Cooney; G. Butler; M. Mills; B. Talbot; A. Hunter; S. Harte; J. F. O'Connell; J. O'Donnell; T. Tibbolet; J. J. Conboy; W. Wynne; J. J. Conboy; W. Wynne.

Reference: J. K. Taylor (Wolverhampton).

Birmingham in their usual twilight limbo

[illegible]

Weekend results and tables

[illegible]

Day when bodies and minds were twisted

just about, deserved their success because of a flying start which gave them two goals in the opening half hour—the first a rising shot from Hugo, followed by Peters' header to a rising flick by Sullivan, the other a flowing move between Peters, Neighbour and Reeves which the youthful Reeves converted.

Later United came close with a thump against Keelan's crossbar, from Jimmy Greenhoff as he shielded the ball cleverly from Connel to swing himself into a shot when a close range flick by Macari was blocked on the line by Powell. In a sense this was a failure since it was from the header that the Irish goalkeeper saved after the interval which has brought United back into "the picture" luckily.

However, though Manchester's players head down, they mounted a series of mulish passing moves over the closing stages in which McIlroy, Macari, Coggell and the Glenageary boys were prominent. United suffered two deficiencies in the second half.

One was the lack of central thrust in the absence of Pearson and the other was the lack of pace on the left flank, who too often flattered only to deceive as he had done for England at Wembley in midweek.

Norwich, bracing themselves for a hard and bitter battle in the darkening situation of a recent past, showed considerable tena-

large sections of a stand behind one goal were demolished like matchwood, cars in the streets

oussure were overturned and the
attempts were made to set fire
a police van as wholesale arrests
were made and the injured
attended to. One thug was hurled
some 30 feet through a roof and
was promptly counterattacked as
he departed on a stretcher.

The distressed managers of both
camps spoke later of long prison
sentences or a return to the camps
as deterrents.

AM of which brought a heavy
showdown to a contest which was
always hard but fair. Norwich

Ward plays shining part in Brighton's success

[illegible]

Dibbs needs seven match points

By Rex Bellamy
Tennis Correspondent
Dallas, Dec. 20—The \$17,500 and an-
nual rise to seventh place in the
World Championship Tennis
points table, by beating Vic
Gerulaitis, 7-6, 6-7, 6-4, in two
hours and 18 minutes in yesterday's
final, has made Arthur Ashe the
tennis tournament to be played
at Earl's Court. Dibbs had three
match points in the second set
and needed four more in the third
set. He was shaking off a
rival opponent who had a teasing
knack of playing his best tennis
when nothing else would do.
This was the ninth time the two
men had met in the WCT circuit.
The remaining three will be played
on clay. The front runners in the
race to Dallas, where the eighth
round of the series will be
played from May 10 to 15, are
now Stockholm, Connors, Drysdale,
Fibak, Nastase, Gerulaitis, Dibbs
and Ashe.

It was an unusually cosmopolitan
final, considering that both
players were born in Brooklyn.
Gerulaitis, 26, is of Italian de-
scent. Lithuanian. It was also a
final dominated by tactical con-
science and thrust rather than
power. Gerulaitis was a player
of finesse and smarts, and
smash. The spectacle would
have been improved had the
contrast between the players
been sharper.

Ashe was a
was a crushing enough and the
fluctuations in the score produced
dramatic exchanges in the second
and third sets.

Gerulaitis began with a prodi-
giously sure touch on the drop and
lob, but briefly lost confidence
in his serve. He was not
what he was up to. Gerulaitis
became erratic with his forehand
and his serve. The tie-break
was a moment of both brilliant
and forehand errors and, finally
a double fault. Thus it was that
he lost the set after leading 4-1
in the first set. Ashe, however,
then saving four set points.

began to use his drop again. But Dibbs led 5-2 and, at 5-3, served for the match. He was going well

reminding us that he was not the 1957-58 Dewar champion.

Dibbs is only a little chap, but chunky and aggressive. When he charges the net, it is easy to imagine a careful rhinoceros.

As for one side, the players are a loose game at 3-5, whereas Gerualdis, who tends to be "sneaky", is at his richest, with a lot of wiles in the court.

Dibbs missed two match points on his own errors. In the next game, a double-fault gave him the first point, but Gerualdis slammed the door with a fine service and a smash. By the time the tie-break came along he was still playing well enough to win it.

It is not that Gerualdis is a great player, but he has given all he had to give. Dibbs' game has three break points from 5-1.

But the pattern of the second set service was briefly repeated.

Serving at 5-3, Dibbs had two match points but lost the game. This time, though, Gerualdis was the one whose finger was on the pulse.

Dibbs had finally lost their adhesive qualities. Dibbs set about himself with Serce service returns and volleyed at 0-48 with a forehand.

After his long singles match, Dibbs figured in another lengthy tussle in the doubles.

With Mark Cox, he finished 7-6, 6-7, 6-3 in two hours and five minutes to the Nassau and the Bahamas.

He collected another £3,000 in prize money.

RESULTS: Semi-final round: E. Dibbs (USA) vs Gerualdis (UK), best 3 sets, 6-4, 6-3, 6-4; Gerualdis, 7-6.

Trophy again won by a Scottish school

By John Woodcock

The Halford Hewitt Golf competition for old boys was won by a team of second year boys, running by a Scottish school. Last year it was Merchiston and this time it was Watson's, who beat the other four schools. The final was something to spare.

Right from the first round at Marlborough had a succession of brilliant displays. The first round brought both let them off when they had three putts to beat them; against Shrewsbury two matches went to extra holes; against Marlborough two to three holes; and against Shrewsbury's ball in the deciding game went in and out of the brook at the 18th. Yesterday the two to three holes was the last. They had another desperate escape against Charterhouse.

Courage is not enough for crippled champion

By Richard Streeton

Great strength of character and undoubted courage while crippled by a painful hip injury were not sufficient for Jill Hammersey England's European champion, at Birmingham yesterday in the world table tennis championships. Her defeat by the Chinese, who used Orthodox heat therapy, a faith healer's efforts, and finally novel treatment—unknown to Western medicine from the Chinese team's doctor, all failed ultimately to overcome the English girl's problem.

Mrs Hammersey was beaten 21-10, 16-21, 21-19, 18-21, 21-13 and 19-17 in the women's singles final against Katsuko Katagishi, a Japanese junior, who came through the qualifying round. This is not one more tale of excruciating anguish following a major international success, merely that circumstances turned up an insuperable debt for Mrs Hammersey, and the item by item tallying of her losses. She has lost full. Like the rest of us, Mrs Hammersey had her equivalent share of VAT and service charges to swallow these days.

In Mrs Hammersey's exit proved the melodrama, the breath-taking skills were seen later as the men's singles were whittled down to three. The drama of the dandling champion, Istvan Jonyer (Hungary), and England's last two survivors, Desmond Doughty and Donoghue, was among those to have faded beyond the third round. The semi-final round line-up in draw order will emerge from: Kohno (Japan) v Gargely (Hungary); Yngstavaia v Liang Ke-Lian (China); Huang Liang (China); Gargely (Hungary); and Klamparski (Poland).

England's Denis Neale at the same stage was defeated in straight games by Mitsuru Kohno (Japan), who beat him 2-0. In the second round, Desmond Doughty faced the fifth seed, Kohno again, 2-1, 2-1, 2-1, in the third round.

World championship results

[illegible]

Beckenham survive early crisis at Clarence Park

By Sydney Friskin

St. Albans 1 Beckenham 2

St. Albans had the spirit, the dash and the skill. That started to show up yesterday's hockey match at Clarence Park where Beckenham put themselves in the final of the Metropolitan League hockey post season. Scored by Reason and Bedges. So, on May 1, Beckenham will be away to Slough for their last Nottingham match. The last of the season strokes after the score stood 0-0 at the end of December and extra time was played. Beckenham won 1-0 at the final on May 19 when Beckenham won 1-0.

Beckenham's victory yesterday was due to their ability to accelerate at short notice. Held together by McIntosh and Mills in an early crisis Beckenham was able to push the ball forward through the goals, more often than not, someone in high gear.

Hurst again had a great game. A goal for St. Albans, saving one from another from short range. Morgan and Bedges topped a penalty stroke which might have enabled Beckenham to wrap up the match. Morgan found his touch and led most of St. Albans' attack. He looked refreshingly different in the victory in the final.

Much against the run of play

[illegible]

was saved by Hurst. Three six minutes before half time Hurst missed McInnosh a goal from a short corner.

Hurst saved another shot from a short corner early in the second half before St. Albans began a

Dutch silence

by Joyce Whitehead

The Netherlands women's hockey side scored two beautiful goals, one in each half, on Saturday at Newport Athletic Club ground, Newport, to which Wales did not reply.

Both goals were scored from a free ball. The first was marked by a free ball in the pass, and Ned van Kollenburg, her accustomed style with one foot moved hand, moved forward and dropped the ball which M. Jansen then shot home into the goal.

Those two goals, with perhaps a third by Wales's Shirley Morgan in closing minutes, though it was too late to help, the ladies' triumph to a very exciting match of a not very exciting nature. The first half was nearly all whistle. When the Dutch were not giving sticks (they found the English interpretation of the article bewildering) the Welsh were obstructing and the game never flowed.

Wales attacked hard in the first half, but the Dutch were not giving shots at goal to show the weakness of the Dutch goalkeeping.

fierce counter-offensive. Their labours were rewarded in the

[illegible]

CLUB MATCHES: Barclays Bank 0
 Mids-Surrey 1; Bedfordshire Eagles 0
 West Herts 0; Blackheath 6. Gore
 Court 1; Chesham 2; Metropolitan Police
 0; City of Oxford 1. Coronary and
 North Warwick 1; Maldenhead 1.
 Trolans 3; Old Cranleighians 1. Spencer
 1; Slough 7. Polytechnic 0; Southern
 2. Reigate 3; Tunbridge Wells 1.
 Bockenham 5; Worthing 1. Hawks 2.

COUNTY MATCHES: Bedfordshire A.C. v. Bedfordshire B., Bedfordshire A.O.
Cambridge United v. Cambridge Royal Road;
Haverhill H.U. v. Tynardale Works 1-0;
Kettering Town v. Kettering B. (second
division); Crispington O. v. Wimples 1-0.

The Welsh

H. Straluke went to ground with every move she made.
While the Dutch were beating their way through the forest,
—0-0 in Dublin, and so won the triple crown for the first time since 1950.
At Sutton, Lancashire romped 2-0, 1 win over Gloucestershire to become English county champions for the seventh time in nine years. They gave a fine exhibition of hockey and forward play. Haselden and Grayson, kept well out and had a busy and successful weekend.
In the semi-final round on Friday at Worcester, East of Wales beat Surrey 2-0 and Surrey drew 1-1 with Gloucestershire even after extra time when the light failed. So they continued on Sunday night at Stretton, where they defeated Stretton and Gloucestershire went through to the final. Then Surrey beat Staffordshire 2-0 and the county championship 1977 are: 1, Lancashire; 2, Gloucestershire; 3, Surrey; 4, Staffordshire.

Tonight's fixtures

FIRST DIVISION: Queen's Park
Rangers v West Ham United (7.30).
FOURTH DIVISION: Rochdale Town
v Torquay United (7.30).
RUGBY LEAGUE: First division:
Widnes v Rochdale (7.50).

Motor racing

Hunt and Landa talking in the pits before yesterday's race

[illegible][illegible]

From Athlete Staff

Luxembourg, April 3
The meeting took place under a bright sun and the swimming pool was breaking records. The women's races were finally listed yesterday when two 15-year-old brasseriecooks from Luxembourg, Stacey Bryant (Manchester) and Nell McLeish (Sowerthorpe), set new English and British junior records respectively in the 200 metres event on Saturday the second day of the 16th annual invitation meeting in Luxembourg.

The young Stanley pool full advantage of her ideal placing in the 100 metres final, where she was ranked on the one side by the American girl, Shirley Templeton, 20-year-old holder (1:15.7sec). Carolyn Mason, (Southport) and Stacey Bryant won the fastest qualification heats. Lindsay Taylor (Worwerdshill), reflecting her tactics of the 200 metres event on Saturday when she had challenged unsuccessfully by just .15sec; to overhaul Miss Mason for the gold, on this race was twice headed off after her first lead (39.8sec.) and without the Southport girl fought strongly to regain her head and finish in 1:52.2sec.

Stanley touched home in 1min 15.2sec., with the tall Miss Farrah a mere .14sec away in third place.

A new British record over 200 metres by Nell McLeish was less of a surprise, although he also had been beaten in the sprint events. She was followed by her colleague and closest rival, David Bryant (Gateshead Metropolitan), who was the early start favourite, and the double troublemaker, junior champion had taken command by halfway (72.4sec) and finished in 1:52.2sec, unjustifiably away from the field to win handsomely in 2min 27.8sec, an improvement of .15sec on his last time at Clontarf Park (City of Coventry) set in this pool. Bryant was second in 2min 35.5sec and Martin Porter (Barnet) came in third in 2min 50.1sec. Some 150 British swimmers took part in the meeting and realised their own dreams by winning medals from a total of 48 events, most of the titles being won by the 40 members of the club which was sponsored by the Green Shield Organisation. The International club trophy was won by the team coached by Central Swimming Club.

planets orbiting the Sun produce tidal effects just as the Moon causes tides on the Earth. It is believed that they may cause the Maunder Minimum, a period that has been seen on the past few hundred years. In particular, the 11-year-old periodicity in the sunspot activity may be related to correspond with Jupiter's 11-year orbit of the Sun. But detailed calculations of the behaviour of the planets in the late seventeenth century are not available. The theory is without foundation. The origin of the sunspot cycle remains a mystery.

Observations of sunspots have been since about 1600 and they have shown a regular variation of activity on the sun, intense activity recurring every 11 years. Apart from the period from 1610-1700, the sunspot activity has been observed. That period is known as the Maunder Minimum and provides a crucial test for theories of sunspot formation.

The gravitational pull of the planets are extremely weak, less than a million-millionth of the force of gravity on the solar surface. They are unlikely to produce responses that would trigger or trigger a bigger off some process responsible for increasing solar activity. Changes in the tidal forces are produced as the various planets move in with each other at different intervals and that might conceiv-

ably provide a trigger mechanism.

To explain the 70-year lack of sunspots during the Maunder Minimum requires, on this theory, that the sunspot activity is less than normal during that period and any alignment of planets must be counterbalanced by the effects of the remaining planets.

Dr J. A. Eddy and Dr C. M. Smythe at the National Centre for Atmospheric Research in Colorado have calculated the tidal forces due to the planets for each day of the last 500 years. Taking these daily data over 50-year periods they are able to make accurate estimates of the variation of the tidal force with time during the period.

The effect of the planets during the Maunder Minimum is found to be indistinguishable from that of the past 50 years, in which the 11-year cycle of sunspot activity is well established. The cause of that cycle is still not known but it now seems clear that planetary motions are not responsible.

Source: *Nature*, 266 434 March 31, 1977.
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Sir Francis Sandilands



Popular prejudice would assume that the chairman of the giant Commercial Union Assurance Group, director of JCI and Plessey, Trafalgar House Investments and Kleinwort, Benson, the merchant bankers, was a City magnate, cast in the heavy mould of economic imperialism.

Instead, Sir Francis Sandilands is a wispy don who affects enormous, round, bifocal, gold-rimmed headlamps as spectacles, prefers casual clothes to wrinkle round his spare frame, and occasionally allows a winning smile to break through his sharp dedication of his features.

His many extramural activities include the chairmanship of the Committee on Invisible Exports. He is proud of the City's huge contribution to our balance of payments and tetchy about the Government's habit of deducting from the gross figures defence costs abroad, expenditure on overseas aid and the servicing of Britain's foreign debts.

the commodity dealers, the foreign banks in London, particularly important, mostly American banks who give a quietist a bit of money, the tourist associations, the EIA, the fair trade movement, and it comes from the banks and the insurance companies, those are the largest contributors.

"The promotional effort is now being mainly directed at markets which have not been established for so long as the United States, Australia and Europe. Obviously, the Middle East is one area which is working at very hard, and there is South America. We have positive proof that these missions

actually lead to business being done while the mission is there. Some new contact is made. Whether by an insurance broker, a lawyer, a real estate agent, a bank who is with us, or perhaps one of the construction engineers gets an opportunity to start up in that place where he hasn't been before. It is very much more than goodwill, it is a actual positive selling staff."

With the evidence of the CIO successfully assuming the role as a currency earner, it is hardly surprising that Sir Francis turns a jaundiced eye on Sir Harold Wilson's committee of inquiry into its affairs: "The Wilson Committee has had, as far as I know, two full sessions. I think it is probable that it has been establishing very largely how they are going to proceed. Letters have come from the committee to various interests, including myself as chairman of the Invisibles, indicating that they are first addressing themselves to the problem of the selling of funds, they put it, which I think is really rather a nonsensical expression— the flows of funds for investment into industry, where they come from and whether the supply is adequate all these sort of things and they have said that they are considering the publication of an interim report on this aspect."

"Then they will proceed in stage two to consider the part which the various City interests play in a more general kind of way, the regulatory system, whether that is adequate, or whether it could be improved, and so on. Now I happen to

hold the view very strongly indeed that this approach of trying to split the thing into two parts is greatly to be regretted. "I am quite certain that the trade union members of the committee, they see this as a way of trying to speed this thing up, no doubt hoping that there's going to be something which will be something which it won't, but in any case it is an impossibility for the committee to do its work properly and split it into two halves. If they try to do this then something half-baked and possibly biased is going to come out because the trade unions will press for they in the City of Bullock hope that Harold Wilson will have the good sense to resist this, as I am quite certain some of the members of the committee will. "There is a pretty widespread feeling that the inquiry is a splendid thing, partly because of social and political considerations and partly because it's a splendidly honest, really big and well connected affair with people who were very much on the fringe of the City. Some of this has caused much to stick to the City as a whole. And here there is a splendid opportunity for all of us to show what we are good at, to show that we can do a good job, that we are performing a useful function. If we don't perform it God knows who will. If the Government try to do it they are going to make

an absolute nonsense of it. It is something that this country has traditionally been good at. As a trading nation we have had to have good back-up financial services, and the cities have always been the best at this. It leads to a tendency to nationalise the banks or insurance companies, or some them, or if it leads to a more restrictive form of legislation, and an attempt to abolish a form of self-regulation on which the City has thrived in the past and which enabled them to make the towns in the hinterland being subjected to too much bureaucratic supervision, happens in the United States.

"I have hard evidence from insurance companies and insurance brokers and Lloyd's, well, that the threat of nationalization is taken quite seriously in the United States much more seriously than it should be because they don't understand how they should and why they should take a rather extraordinary way which the Labour Party machinery works. It is official Labour Party writ at the moment, and until it is withdrawn, it is which I don't think it will be by the time the Labour Party conference, there is a continuing long-term threat that sooner or later a Labour government is going to act on

"In 29 of the American states there is a law which actually prohibits a government-owned insurance company from operating. It's the threat rather than the effect of nationalization which affects business at the moment. The American insurance agent—and much of the business is placed with the insurance companies—in America has been able to get richer than through brokers as in this country—will say its own organization there, 'A right, fine, but how long can we rely on you to provide a market for us. Sooner or later perhaps you are going to nationalize it.' And they may want to do so."

His whole professional career has been in the insurance business, an unusual path for a modern-day naval officer. He was lieutenant-colonel in the Royal Marines. The son of a naval officer, he had attended Eton and Corpus Christi, Cambridge. Did this argue private funds? He said no. He argued that his father's money was for his further stretched himself very greatly, and at Cambridge he was educated pretty largely free because of scholarships.

He said I had been told that he read classics and law, and at the time he was still taking his MA in 1925 he joined the Ocean, Accident & Guarantee Corporation. It was a very big deal, unusual. "I would have liked to have gone to the Bar but it was very hard for

young man without any previous means then to go to the Bank of England to find some way of supporting himself. Still, I was not very little thing in those days, so I thought that I had better go and find a career in commerce or industry for myself.

"Having gone to the university appointments board and been shown to various countries and leaving had a considerable part of myself in the Ocean, which was the Commercial Union's largest subsidiary but operated more or less on its own in those days. They had a university entrance scheme. I had a feeling that the way to get on was to go abroad and I found that the insurance business operated all over the world. That you might find what you yourself wanted to do didn't actually go abroad before the time came that I was awarded, and so I went into the Army."

After six years with the Royal Scots Fusiliers and on the General Staff, he returned to the world he knew. Another five years saw him as a senior executive of the Commercial Union, and his path since has been upward and outward. To firm like his takes in more than £1,000,000 of other people's money every year in premiums. He defends the customer against the vast sum which wasters disband for current, ill-informed criticism:

"When you talk about the insurance companies investing their money, this is mainly the money that is entrusted to them as a result of their business as non-life insurers. This is where, similarly to the pension funds, the savings of the people are collected. I think it is well enough understood by politicians of all kinds that you could not direct the investments of the life insurance companies so that those must be invested in such a way that they match the liabilities which an insurance company accepts. Those funds must be readily realizable and you could not say that they must be invested in the stock market without endangering the stability of the business.

"What we are talking about are the savings of the holders of life assurance policies and the pensioners of the funds which are insured by the life companies. The first and foremost criterion for investment is that you are acting as a trustee for the savings of a multitude of small savers. It is their interests for which we

are substantial. You are the argument put forward by proponents of control or direction of investment that we are the only country in the world, certainly the only underdeveloped country, where there are no controls of any way in which life companies are allowed to invest their money. But the controls in such countries as the United States, Canada, Australia, Europe, South Africa, to name a few, are exercised for one purpose and one purpose only and that is in order to safeguard the interests of the policy holders. I would suggest the company from adopting an important investment policy. It has nothing whatsoever to do with how the money is invested from the general economic point of view.

"What the proponents of controls here are aiming at is the channelling of investment into industry and particularly into those industries which are thought to need more investment. Now this is starting at the wrong end. If industry does not want more investment, because they think they cannot make an adequate return on the money they are investing, we can go along and say to them, 'Look, we've got plenty of money here, would you like some?' They say, 'No, we see no point in investing it at the moment.'

"That's an oversimplification of course, because one of the reasons why industry is reluctant to borrow at the moment is because interest rates are high and, again, nobody in their senses is going to borrow unless they have to if they think that interest rates are sooner or later going to come down. They will hold out and wait until they can borrow at a more advantageous rate. Interest rates have been coming off their peak. They are likely fall further. This is a very healthy revival of demand and the latest CBI survey shows that there are some signs of this happening.

"If the demand increases the supply will automatically increase without our being told by the Government we've got to

push money in this or that direction. It'll go into those industries which require money for investment for the expansion of their businesses and you can't play with this at all. In 1975 and 1976, and more particularly in 1975, there was an enormous demand for fresh ordinary capital, new ordinary capital; there was no failure to meet that demand. The City provided the second highest ever fresh equity capital, so the supply is there."

Do concerns like his only channel their funds into blue chips or government securities, or are they also risk-takers?"

"Of course," he says, "investment which does not begin to border on the limits of prudence. We have money in small companies as well as large; some of them have done very well. I think the most successful investment was in the case of a company called Trafalgar House, which I have been on the board of since it became a public company, and that was a tiny acorn and it is now a very large tree. Our original investment in Trafalgar House was £100,000, worth now less than £1m and it is now worth well over £10m and that has all happened in the space of about eight or nine years."

For two years, under successive governments, he was chairman of the Inflation Accounting Committee. He says that the just-breaking 365-page report in 1975 which is altering radically the entire basis of company accounting in an era of runaway prices. Apart from his directorships, he is on the board of the Royal Free Hospital, Covent Garden, and the treasurer of University College. How does he find the time?

"Well, you see, although I'm a professional insurance man, I ceased to be chief executive and I suppose I spend about half my time on the Commercial Union now and the rest on these other activities. But it is hard work."

He has a weekend cottage in Suffolk, where he would spend more spare time if he had it. Listening to music and reading medieval history gives him most pleasure. "It is an extension really of my Cambridge degree in classics. I got interested in

the continued use of Latin in the post-classical age and found somewhat to my surprise that there was a very considerable corpus of medieval Latin literature. It grew and it grew and an extension became interested in what was going on here as well as in the rest of Europe in that period between the beginning of the fifth century when the Roman legions left this country and the time when the Normans arrived in 1066. It is as simple as that and it has continued to fascinate me."

The collapse of Roman civilization does not lead him to any kind of despair, but he lays down two conditions: "One is that there must be a halt to further nationalization. There must be a halt specifically to the share of the gross national product that is taken up by the public sector. There must be less public spending relative to private spending."

"Secondly, and as a concomitant of this, people must be encouraged to make a success of their own lives. They must not be discouraged but they must be positively encouraged. Young men will not continue to work here unless they can see that they've a reasonable chance of bringing up their family and living reasonably comfortably. If they don't see that prospect they'll

get out. "It is easy now to find young men to go and manage consulates in the Middle East and elsewhere. At the end of the contract, if you haven't got another one for them, they will go elsewhere and say, 'Have you a contract coming on in this part of the world?' and go to that. They won't come home. Similarly, in our own kind of business, you send a young man, say, to Australia or the United States, or even to Europe, and after he's been there four or five years and realizes how much better off he is in those countries, you may want him back here but he won't come, or it is very unlikely that he'll come. That is where the question of incentives becomes really important, and this works right the way down."

Brian Connell

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After Mr Vance's disappointing Moscow visit, should we pin our hopes on a nuclear pact and are we doing enough to protect Europe?

Britain's defence cuts may be putting the West seriously at risk

John P Mackintosh

Defence has been downgraded in political terms—partly because we have become used to living in peace and partly because of the assumptions on which Britain's defence policy is based. It is generally agreed that it is apart from the views of a few genuine pacifists and a few who feel that no protection against the Soviet Union is necessary. Yet those concerned with defence matters, mainly the service chiefs, have begun to sound a new note of alarm. This might simply be the worries common to all those in the public sector, when public expenditure is being crushed between fixed cash limits and steady inflation. But there are some grounds for arguing that the current cuts in defence are so severe that they will seriously undermine the old assumptions. The Soviet Union and its allies have been increasing defence expenditure by 5 per cent per annum in real terms and the 1977 White Paper on defence sets out in detail the massive increase in ships, aircraft, tanks and artillery now deployed by the Warsaw Pact powers. The counter to this in Nato were never expected to match their potential opponents man for man or gun for gun. Deterrence has been based on the preservation of a political and military balance. This required careful handling. To put too much emphasis on conventional forces in Nato might suggest that the West would prefer to limit itself to this kind of conflict in which case, the Soviet Union would win. But to cut western troops to a token force and to rely solely on nuclear weapons might encourage the Russians to solve local disputes in Europe by force, relying on American reluctance to start a nuclear holocaust over some specific objective which had already been lost.

The essence of Nato's purpose is to be able to offer a genuine and lasting balance to any military aggression so that there is time for negotiation, time for a diplomatic alternative before either important European objectives have been lost, or a nuclear response has to be contemplated.

The steady increase in the forces of the Warsaw Pact powers may not yet have disrupted the political military balance, but the situation is not static. Already the Soviet Union is able to pick up any tricks that the West has failed to play properly all over the world—Angola being the best example. Within Europe, Mr Brezhnev on his last visit to Yugoslavia, was able to take a very tough line against the country's future relations with the West. The Soviet Union made Finland place stiff conditions on its continued membership of the Nordic Union and insisted that Austria accepted the view of the status of Berlin in a recent trade treaty.

None of these examples are catastrophic on their own, but it is essential that if trouble arises in any of these "grey areas" still in dispute between East and West, Nato must look effective enough to remove any argument inside the Soviet Union that the issue could be settled by a short sharp local

action. For the West, the failure will not be if Nato is put to the test and loses; the failure will be if our opponents ever think this is a reasonable option.

Our share in maintaining a credible deterrent is the British army of the Rhine. There are supposed to be 55,000 professional soldiers in West Germany, to be expanded by reservists and by territorialists (who train for 40 days a year) to a total of 120,000 in the event of an attack. In fact, there are only about 40,000 men in position. The rest are in Northern Ireland, on leave, or on training courses. If there was an attack, these men would be recalled. Reservists would be notified to go to their depots. They would be flown to West Germany. In eight days the army would be at full strength.

All this clearly depends on the 1939-1945 agreement, yet the agreement that would be given of an attack, but the Soviet Union's forces do not need to mobilize. They are on a ready-to-go basis.

Then there are the questions of equipment, training and reserves. The Arab-Israeli war showed that to be without the most modern military technology is to court defeat, yet the British army was promised a portable anti-tank rocket for its infantry 10 years ago, and this has still not been issued to the troops. When it is available, it is in the hands of a few, each man will get only one or two shots a year, barely enough to produce the familiarity necessary for the weapon to be used in war. Thirty day stocks of ammunition are kept in West Germany, but this is reckoned on a Second World War rate; by modern rates of firing, it is five days' supply and would be used up three days before the rest of the army arrived.

There are similar or greater worries over the credibility of the navy and the air force in terms of the actual number of ships and aircraft, the effectiveness of weapons, the availability of ammunition and of adequate training.

Because of the very real worries about this situation, the chiefs of staff claimed an audience with the Prime Minister before Christmas. But the chiefs of staff claimed an audience with the Prime Minister before Christmas. But the chiefs of staff claimed an audience with the Prime Minister before Christmas. But the chiefs of staff claimed an audience with the Prime Minister before Christmas.

The author is Labour MP for Berwick and East Lothian. © Times Newspapers Ltd, 1977

We dare not give anything away while the Soviet military build-up goes on

Lord Chalfont

It is hard to believe that anyone in full possession of his marbles could really have expected Mr Cyrus Vance's first mission to Moscow to be crowned with success. Yet the entirely predictable reaction of the Soviet leaders to Mr Carter's arms control proposals has been greeted on the one hand with expressions of theatrical dismay—wild-eyed characters have suggested about the stage, and on the other with a more sober, but no less resolute, determination to preserve their cool, have suggested that the whole thing is just a Soviet negotiating ploy, and that all will be well in May, when the Russians and the Americans meet in Geneva. The unspoken assumption behind both attitudes seems to be that an agreement on the limitation of strategic nuclear weapons is a Good Thing and that failure to achieve it is a matter for prolonged lamentation. At the risk of seeming childish, I would like to suggest that it is not that it all depends on what sort of agreement is contemplated, and that there are even certain circumstances in which it would be better to have no agreement at all.

At this stage in the argument I usually run the risk of being bordered senseless with olive branches and pecked to death by doves. How, I am asked indignantly, can I possibly reconcile this view with my publicly stated convictions when I was Minister for Disarmament in the 1960s. The answer is very simple. In the past 10 years there has been a fundamental change in the balance of military power. It was one thing to contemplate agreements on nuclear weapons when the naval and land forces of the Soviet Union posed no threat to the security of the West. At a time when we are witnessing an unprecedented and massive build-up of Russian military power it might be as well to examine with some care precisely what kind of Strategic Arms Limitation Treaty the West can afford. It might also be as well to underline the sombre fact that although the Americans and Russians negotiate these matters bilaterally, if they get it wrong we shall all be involved in the ensuing barbed wire.

The debate on nuclear weapons is esoteric and complicated enough to baffle a medieval schoolboy and I do not propose to scramble the brains of my readers with a dissertation on Mirvs, Marvs and mutual assured destruction. What I would like to do is to explain, as simply as possible, the background of Mr Vance's proposals to the Russians, and some of the principles that will have to be resolved before there can be any hope of an arms control agreement with the Soviet Union which has any more value than a party manifesto.

Let us start with the principle that if it is to have any meaning, an agreement on the limitation or reduction of nuclear weapons must have the effect of increasing the security of the West. This is a principle which many American planners believe that if they continue with their present programmes, and the United States takes no countermeasures, the Russians will, by the middle of the

1980s, have attained a position of overall "strategic superiority": that is to say, they will have decisively shifted the balance of nuclear power and made it increasingly difficult for the West to resist whatever threats or pressures the Soviet Union may choose to apply. It is in this context that it is necessary to analyse the possible ingredients of a new strategic arms limitation agreement.

The guidelines for such an agreement were set out at the Brezhnev-Ford meeting at Vladivostok in November 1974. They were designed to conclude a treaty to enter into force in October 1977 (when Salt 1 expires) and to last until 1985. It was in pursuit of an agreement under these guidelines that Mr Vance set off for Moscow last week. It is not necessary for my present purpose to set out the precise form of his proposals, or the reasons for their summary rejection by the Russians. It is enough, for illustrative purposes, to concentrate on one vital point of contention—that which concerns the American missile and the Russian Backfire bomber. Under the Vladivostok guidelines, each side is to be allowed the same number (2,400) of strategic launchers—including land-based intercontinental ballistic missiles, submarine-launched ballistic missiles and heavy strategic bombers—each side being free to decide upon its own "mix".

The guidelines did not specify whether cruise missiles were to be included in the overall tally. A cruise missile is, in effect, a pilotless aircraft capable of being launched from land, from a ship or from another aircraft and of delivering a nuclear warhead with great accuracy over long distances. For the United States, who are far ahead of the Russians in its development, it provides an insurance against the growing Russian capacity to destroy American land-based missiles. They claim that it is not an intercontinental ballistic missile and that it does not qualify under the Vladivostok guidelines. The Russians, equally predictably, say that it is and does.

On the other hand the Russians say they do not possess any heavy strategic bombers, in spite of the fact that their new Backfire bomber is capable of delivering nuclear weapons on any target in Europe and with refuelling, the United States. The Russians say that it is not a heavy bomber and that therefore it does not come under the Vladivostok ceilings. The Americans, equally predictably, say that it is, and it does. I have briefly touched upon this one single issue, partly to exemplify the immense difficulties that lie in the way of any effective agreement on nuclear weapons, and partly to illustrate the dangers of a simplistic approach to the problem.

It is easy to conclude that the Americans should do a deal on this problem—or offer to include cruise missiles in the Vladivostok ceilings. The Russians agree to include Backfire. But the results of such a deal would be, as the strategists say, asymmetrical. The Russians would lose none

Many people would see collapse as a happy deliverance

The moment of truth for the Commonwealth



President Amin: Britain should do the right thing.

these separate groupings, its apologists insist; but, and this is what really says it, it does not know what to do. Uganda or what the Turks did in Cyprus, or many other things not in the traditions inherited from British democracy.

However, there is another, perhaps more urgent question to raise before June. The Commonwealth (like the United Nations) is theoretically an association of independent states. But is Amin independent?

Evidence accumulates that suggests that his state, particularly its vital security apparatus, is run by neo-Ugandans. It looks more and more as if Amin is programmed by outsiders. They tell him what he knows, prompt him to react as they wish, and leave him to use his own skills to provide his African skills in staying firmly in the position they want him in.

Uganda is part, though only one part, of outsiders' plans to neoconformise much of Africa, for their own ends. I have necessarily the same ends. Russian interests, Chinese interests and Arab interests vary as much as those of France, Germany and Britain in the 1950s.

This is something that Africans have to think about themselves and their own destiny. But it has an immediate bearing on the Heads of Government conference in London in three months' time. It is very probable that those who are interested in Amin see advantage to their plans in influencing his resolution of take up his invitation to London. To humiliate Britain, to show up the force of the Commonwealth as well, is one of the aims of the conference.

But there may well be

another, to make Amin a success, a pattern of the successful African champion.

There are a number of certain facts of education for Amin (witness reaction to his expulsion of the Asians to a strict timetable), an African personality who reasonably stands up to white men, to the white establishment in the world. He may be a rough, but he is tough on his behalf. So there is now a conflict of wills—between the white establishment in London and an African challenger determined as head of state to be received with the "honours" due to his country.

If it triumphs, he would help his backers not only to strengthen themselves in Uganda, but elsewhere, and to bring forward men of the Amin type in other African situations. But if Amin fails in June, he will have received a punishment from which his reputation may not recover. Even so, his backers may see dividends in bruised African susceptibilities. So the Commonwealth conference, exceptionally, may prove to be an important event.

And the future of the Commonwealth? In my view the Commonwealth must take the consequences of Britain's decision whom to admit to her shores and public occasions, on whom not, however beneficial, and by whomsoever backed.

If it is wrong to let Amin have his way, we should do what is right, and apply to the Commonwealth's future the advice of a national act of contrition is now called for.

Such concern is reflected in the leader columns of the newspapers. The Sunday Express, for instance, said yesterday: "If the politicians do not act now, they may well find it is too late to control the monster they have unleashed."

The National Front candidate lost his deposit.

Roy Lewis

Fifty Years of Asthma Research 1927-1977



For fifty years the Asthma Research Council has been financing elaborate research projects into the causes and cures of asthma. It has received magnificent support from all sections of the community. In its original aim—the ultimate conquest of asthma. Over the years, much has been achieved in elucidating some of the problems of asthma, but far more must be done before the Council's goal can be reached. The number of asthmatics in Britain today is over a million.

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The Times Diary

A dearth of high-stepping clippies

family relationship. Calamity Jane in the present show is Jenny Lindsay, whose brother works in the film and television maintenance section, while the other principals include the husband of a former secretary and a commercial advertising sales representative who is the company's resident comedian.

The Acton railway repair shops provide a number of suitable husky chorus members to people the Deadwood City saloon, and to the backstage wildcat and set-building staff. The male dancers include a relief ticket collector and a booking office clerk from Marylebone Underground station.

The orchestra pit, however, is filled with part-time professionals recruited by the director on loan from ILEA. "Experience suggests that the combination of amateur singers and a professional orchestra is more than the public should be asked to suffer," says Dorey cautiously.

The show is produced by Bertha Peak, an ILEA dancing working on a Jewish group's Oklahoma! in Stepney and Fiddler on the Roof with the Commercial Union's theatrical group. Several of the Commercial Union's dancers have been drafted into the chorus line for Calamity Jane too.

Miss Peak is an energetic mentor. "Come on, come on, eyes, neck, shoulders and bosom," she bawled at a difficult line of saloon belles. "Try

and make it look a bit sexy, can't you?"

A break in rehearsal allowed the company time to vote for the new show, which will start rehearsals just one week after Calamity Jane closes at Wimbledon this month. The committee offered a choice between Quaker Girl, Bitter Sweet, and The Merry Widow. Several of the younger members of the cast complained they were being asked to vote for shows they knew nothing about. They just don't write shows for our numbers any more," explained Fleming ruefully.

In the event Merry Widow won overwhelmingly. Only the relief ticket collector confessed to never having heard of that, and the dancers were assured they would get plenty of opportunities in it. "But be careful to get the simplified version of the score, written down in few tones," warned Miss Peak. "Not that I am suggesting you don't have marvellous voices. We just don't want to make problems for ourselves, do we?"

Unequal

Devoted readers will remember the campaign I waged some three or four years ago to have women allowed to ride in horse races against men. Defenders of the old order protested that the fragile creatures would not be able to control fiery thoroughbreds, or push them hard enough in a tight finish. Eventually, though, equality

won through. Women do ride against men in flat and National Hunt races, and sometimes they win.

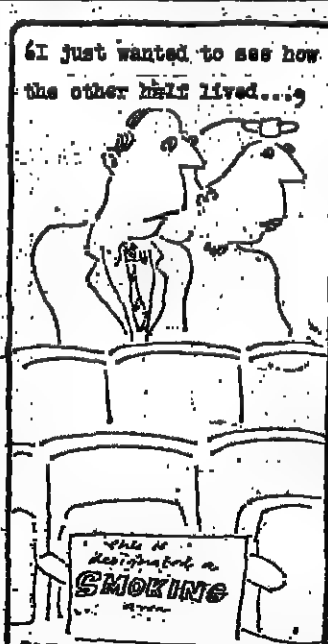
You will, therefore, expect me to be jubilant at the fact that Charlotte Brew rode safely for most of the way round the course in Saturday's Grand National. I am not, though, for I think she might have harmed rather than helped the cause of equality with a remark I heard attributed to her on the radio afterwards is accurate.

Her words were to the effect that she was glad chiefly that she and her horse had not got in the way of the other riders. In truth, there was little chance of their doing so, for they plodded round well last for most of the journey.

Before the race, commentators had been fussing about whether her presence might cause a hazard to others. The suggestion is particularly outrageous in this race, where numerous horses get in each other's way, without spectators being cast on the competence of their riders.

Next year I want to see lots of women riders, mounted on animals with rather better immediate past form than a third in a ladies race at a point-to-point. And I hope they get in the way of as many other horses as is necessary to do the job.

An event I am sorry I missed is described thus in the Somerset County Gazette: "Burnham an District Amateur Wingmaking Circle won by 17 points against Taunton and District Wine Circle in a Somerset Association Amateur Wingmaking Knockout Competition." It does not seem here that the deliriously defeated Taunton folk remained on their feet at the end.



Ugly

Just now, my concerned political correspondent, comments on the triumph of the National Front candidate at the Starchard by-election.

The ugly tide of racism reared its unpleasant little head in this placid Birmingham suburb last week. Thousands of housewives and tax workers trooped to the polling booths to register a protest vote of unprecedented proportions. One of the Front's leaders, a Mrs. Brown-White, was jubilant at this victory, and put it down to the fact that the candidate was of a new breed of extremist. He was a university lecturer, he explained. "He didn't throw

bags of flour or shout crude slogans. There was hardly one spelling mistake on any of his placards."

Observers attribute the size of the Front's triumph to a combination of factors, rather than to specific approval of the policy. It imposing a 10 pm curfew on all non-white people and giving whites automatic priority in bus queues. "There is an ugly new mood sweeping the nation," said Omi Gosh, leader of one of the main immigrant groups. "The British people have much to be ashamed of. A national act of contrition is now called for."

Such concern is reflected in the leader columns of the newspapers. The Sunday Express, for instance, said yesterday: "If the politicians do not act now, they may well find it is too late to control the monster they have unleashed."

The National Front candidate lost his deposit.

Not out

It is more difficult to be omitted from Who's Who? than you might suppose. Tony Benn's campaign first to curtail, and then to expunge his entry in the book has been widely reported, and this year was no exception. He has been crowned with success.

The popular exclaim was: "I fear, premature. After having fought his way out of the pages of the who's who reference book, Benn is almost back where he started."

He has, in fact, two surviving entries in the 5th under Stars and Stripes (of the title he cast off in the early 60s), and in the 6th under Woodrow Wilson. In both cases the reference is to Benn A.W. for which no entry now exists.

PHS

هتد امان الاصل

Europe?
the

The need to reassert Islamic values to counteract the secular, materialistic influence of the West is the theme of the First World Conference on Muslim Education being held in Mecca. This Special Report looks at education in eight countries with a large Muslim population—Saudi Arabia, Egypt, Iran, Algeria, Pakistan, Turkey, Indonesia and the Soviet Union—and provides profiles of four universities in Egypt, Lebanon, Turkey and the United Arab Emirates.

In the opening article Michael Binyon considers the dangers to Islamic society posed by the influence of western science and technology

EDUCATION AND ISLAM

Tradition faces the wealth test

It is appropriate that the first world conference on Muslim education should be held in Mecca. Not only is it the religious setting, but it is also the place where the need to learn foreign languages, mainly English, and study foreign textbooks to control the technology of wealth has brought with it access to and interest in the superficial products of western culture—American television programmes, films of sex and violence, western fads and fashions.

Saudi Arabia has grasped the need for an educated technological society. It has tried to wear protective gloves, to stop its traditional values being swamped by a policy of restriction and gradual change. Now it believes the time has come to reexamine these traditional values.

Change is most dramatic in Saudi Arabia because the country had farther to go than others, and sudden wealth made change more possible. But similar statistics can be found in all Gulf states, in Iran and in oil-rich states such as Libya and Nigeria.

So can similar challenges. The Islamic world was once the intellectual centre of the universe. The enormous oil wealth which many Muslim countries have suddenly acquired has prompted a widespread belief that the golden age of learning can return.

But the question at Mecca is: can this be achieved without the profoundly anti-Islamic movement that accompanied Atatürk's revolution in thought and learning in Turkey after the First

اقْرَأْ وَرَبُّكَ الْأَكْرَمُ
الَّذِي عَلَّمَ بِالْقَلَمِ
عَلَّمَ الْإِنْسَانَ مَا لَمْ يَعْلَمْ

The Arabic inscription above comes from the Koran, chapter 96, vv 3-5. It means: "Read: for your Lord is the Most Generous One, who taught by the pen, taught Man what he did not know."

years ago. Ironically the presence of so many Palestinian refugees in camps has aided the state system: comprehensive schools set up by the United Nations Relief and Works Agency have led to a vast output of reasonably well-educated manpower.

These countries had a head start, and have been able to coordinate their efforts. As long ago as 1957 Egypt, Jordan and Syria signed a cultural pact standardizing the divisions of primary, intermediate and secondary education. Higher education was built on these foundations. The universities have a fairly high standard and send teachers to the Gulf, Libya, Saudi Arabia and other countries less advanced in education.

Palestinians, who have as high a rate of university students to their population as any country in Western Europe, are the backbone of school systems all over the Arabian peninsula, and will be for years until the new teacher training colleges in these countries are well established.

All Arab countries are challenged by the need for higher, particularly technical, education. In the race to build colleges and train professors there is a danger that the educational pyramid will rest on too frail a base.

The struggle against illiteracy is still not won. An Arab League report in 1965 showed that the rate of illiteracy as a whole is not much below 65 per cent. The diversion of resources to expensive higher education, high birth rates and over-optimistic targets suggest that the percentage has not fallen much in 12 years.

There is also an acute shortage of textbooks, both in primary and secondary education. This has been compounded by the emphasis on Arab culture in learning, which has hit the Maghreb

countries hardest. Replacing all the French textbooks in Algeria, Morocco and Tunisia is a long and expensive business, especially in science.

But the ever-increasing demand for qualifications has forced all countries to press ahead with the building of colleges and technical training facilities, concurrent with the establishment of primary schools. This is true not only of the Arab countries, but of Turkey, Iran, Pakistan and Nigeria.

Most Muslim countries cannot yet provide all the specialist science that they require, particularly in the postgraduate area, and large numbers of students are sent overseas. Iraq and Iran have some of the largest groups of foreign students, about 20,000, in the United States.

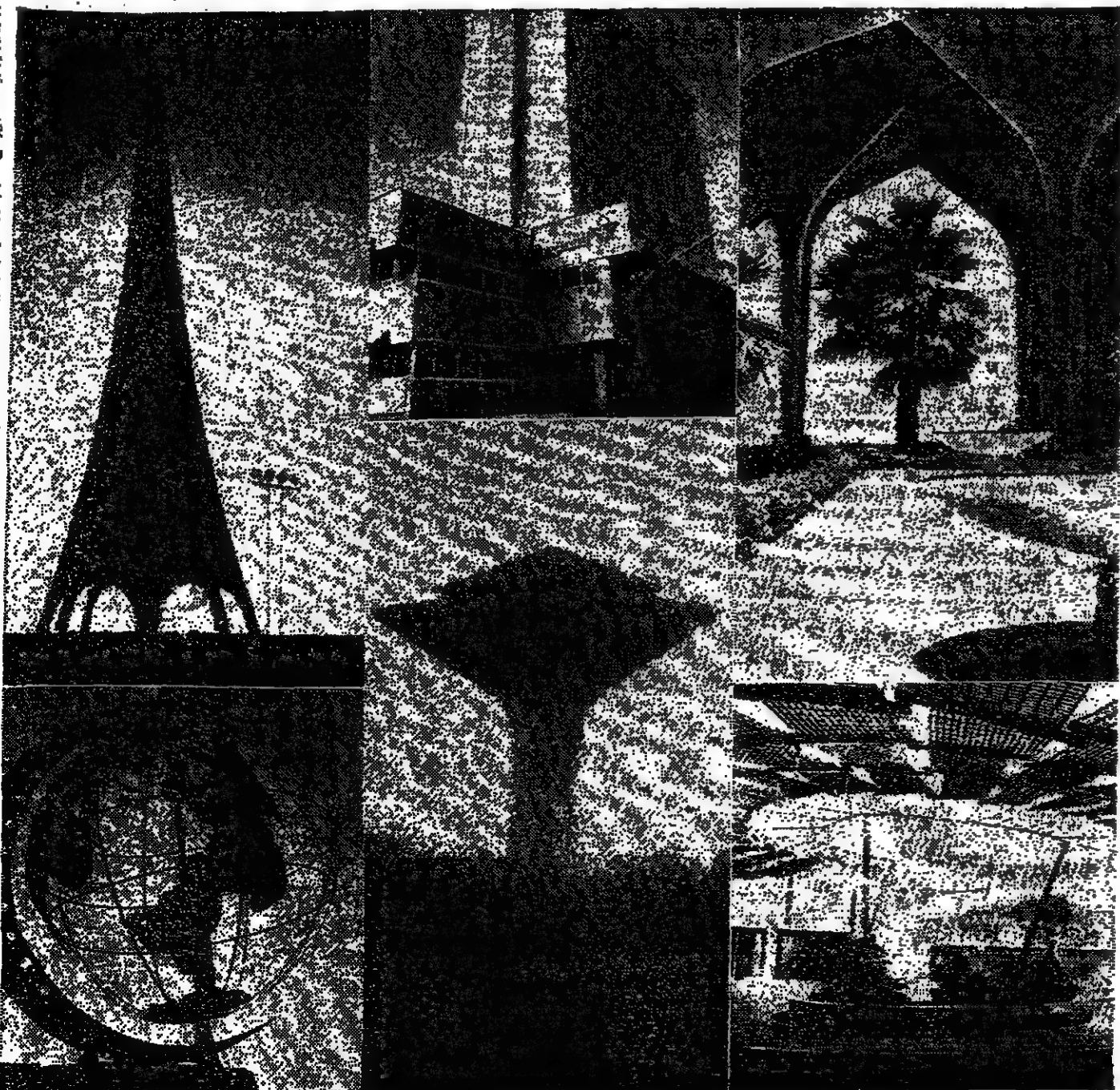
Indeed Iran's educational involvement with the United States is almost as close as its military involvement, and has caused some stir in American academic circles with talk of "academic hush" by universities and a scramble for contracts and agreements.

Iran is a good example of a country that is using every possible western resource in order to produce quickly a sufficiently large educated cadre to allow intellectual as well as political independence.

In doing so it exposes its students to western political ideas which are not always acceptable to the regime. The question the Mecca conference will have to face is whether total intellectual exposure to the West may also be unacceptable to Islam.

Western contact with Islamic learning before the renaissance invigorated Christendom. Does the West now have a role to play in an Islamic renaissance?

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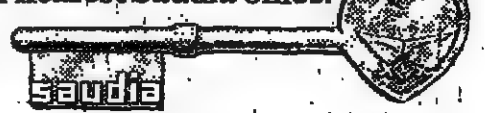
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London	d	2000	1105	1105	1310	1105	1400	1310	1105
Jeddah	a	0410	2045	2040	2045	1915	2245	1915	1915
Riyadh	a	SV826/0630	2230	2230	2230	2230	Sum0035	2230	
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Saudi Arabia

Government in deadly earnest over its compelling investment

by Tudor David

To the Saudis education serves two purposes. The first is religious; Islam places great emphasis on the significance, both intellectual and moral, of learning. The second is economic; Saudi Arabia needs educated manpower and needs it fast.

Victorian, and especially Anglican, England had much the same priorities. But there is an all-important difference. Victorian governments were at best indifferent and often hostile to the development of a coherent national educational system; in Saudi Arabia the government is in deadly earnest. Education is seen as a compelling investment.

By the end of this decade about a quarter of public expenditure will be on education and 35 per cent of the child population between the ages of six and 11—the elementary stage—will be in school.

What took most western countries 30 years will be crammed into five. The oil which turns into Arab gold will not last for ever—perhaps not much beyond the year 2000. By that time Saudi Arabia has set itself the goal of being the equal of the industrial countries of the West.

Or rather, the goal is not to be equal but better, morally better, and the moral avail of Islam will be the means of forging this.

Islam must pervade the entire educational system, through prayers and the Muslim equivalent of our religious education, through fasting in the month of Ramadan, through strict adherence to the Saudi interpretation of the *sharia* or Islamic law.

The ubiquitous sins of the West which pillars of the Saudi establishment will readily list—free mixing of the sexes, alcohol, drugs, muggings and all the other consequences of permissiveness—must never penetrate Saudi Arabia, even on holiday. The magnificent resort which is being planned in Abha high in the Saudi mountains in the west will be for uniquely Muslim pleasures. No bars, discotheques or hamburgers will pollute its atmosphere.

No one supposes that this will be easy. Hence the call for a holy war, meant to imply a total and sustained commitment to the particular view of Islamic precepts in education held by the Saudis.

The trouble is that a large number of the Muslims who have assembled in Mecca for the First World Conference on Muslim Education will simply not find it possible to go all the way with the Saudis.

That is especially true of the Egyptians, who find it difficult to resist claiming that the intellectual focus of Islam is in Cairo. Egyptian influence on education is manifest in all the Arab countries of the Middle East, and perhaps most of

all in Saudi Arabia, with agreement on, however, is how complete the separate education of boys and girls should be. It is a measure of the strict Saudi reading of the Koran that at the Abdul Aziz University, where the conference is taking place, there is only one way in which women students can attend classes—given by male teachers—on closed circuit television.

Of the 4,000 students at the university, mostly located in Jiddah, about a thousand are women. Yet rather to the surprise of the Saudi women, despite their heavy dependence on audio-visual aids, do consistently better than men in examinations.

But when the examinations have been passed what can these women do? The Koran, according to the Saudi theory, forbids any mixing of the sexes after puberty except within the family circle. That means that women can work only with women; they must become mainly nurses or teachers.

The chief inspector for girls' education in Saudi Arabia is a man; he must be so in order to communicate with the senior civil servants and officials who are all men. He is a much-respected former judge, Shaikh Nasser bin Hamad al-Rasheed, and he is said never to have been to a single girls' school, except when empty.

That is no way to suggest that the Saudis are in-

different to the education of girls. Far from it. They could fairly claim that the fact that nearly a million children in school in the country some 400,000 are girls is a great achievement. The Koran is quite clear about the importance of girls' education and the Saudi Government will not stand for any resistance to its extension. Less than a decade ago troops were dispatched to one recalcitrant village where the elders were unwilling to allow girls to go to school in the order to ensure that the Ministry of Education's instructions were applied.

Not could anyone deny the intellectual honesty and moral determination of the men at the top. The recently appointed Minister of Education, Dr Abdul Aziz al-Khawaja, is a perceptive former Vice-Chancellor of Riyadh University and a graduate of London University School of Oriental and African Studies. Among his deputies, men like the American-educated Prince Khalid bin Fahad and the Swiss-educated Prince Muhammad al-Faisal would be valued and energetic additions to any administration. Yet like the rightly devout Minister for Higher Education, Mr Hassan al-Shaikh, they remain zealously attached to the Saudi interpretation of the Koran.

However, they must surely wonder where the inflexibility over the role of women will lead. There are, for example, a few Saudi women students studying in

Britain for degrees in business administration. How in Saudi Arabia can their professional skills be effectively deployed? There are seven Saudi women students in Britain on postgraduate medical courses. That is a measure of their quality. The examination results at Abdul Aziz University do not prove the superiority of Saudi women to learning. They demonstrate, rather, the large reservoir of latent intelligence and resourcefulness which is waiting to be tapped.

The other human resource which somehow must be released is likely to be a great deal more intransigent. That entails changing the attitudes of people who are emerging from the daily regimen of nomadic Bedu communities to the different demands of industry and commerce. Arguably that is no different from England in the early days of the industrial revolution.

Moreover, the English rural poor had little if any choice but to accept the new discipline of the factory. The Bedu have a choice, and there are taboos upon certain occupations sanctified by centuries, though not by Islam. The Vice-Chancellor of Riyadh University found when he was expanding the university that one of his biggest problems was not recruiting university professors but finding Saudis willing to take on the job of laboratory cleaner.

That restrictive attitude to work prevails in a number of developing countries but in Saudi Arabia, where the population is thinly scattered, it is not only a serious block on economic progress but a socially enfeebling. At all levels of society the non-Saudi component is growing rapidly.

One of the most important tasks the Saudi schools face is somehow to create a generation with a new attitude to labour. To some extent this is a matter of *mens sana in corpore sano*.

Although Riyadh has more television sets per household than any other city in the world, large numbers of Saudis are seriously undernourished.

The answer to malnutrition provided by Dr Muhammad Hayati, the Cairo-trained director-general of the School Health Service, was a daily school meal in the form of a specially manufactured biscuit made of wheat flour and lentils, together with a ration of cheese and some dates. That provides about two thirds of the nutritional content of the recommended school meal in Britain.

The author is editor, Education.

A physical education class pose in front of a portrait of King Abdul-Aziz ibn Saud, founder of modern Saudi Arabia.



Algeria

Two reforms which match spirit of national charter

by Paul Balta

The 1976-77 school year in Algeria was marked by two developments: the unification of the various primary and secondary schools and the introduction of the nine-year *ecole fondamentale*, an innovation in the educational system which is better suited to Algeria's needs and policies. These two developments are in keeping with the national charter, the document setting down ideological, political, economic and cultural guidelines which was adopted by the people in a referendum on June 27, 1976, having been widely debated.

The unification of the educational system has been approached from two angles. The private schools, most of which were run by the Roman Catholic Church, have been nationalized; the plans for this measure have been known for several years. These schools worked to the state curricula and provided education of a standard above the national average.

As they were fee-paying schools, the 40,000 children attending them were largely from the better-off social categories: the children of

senior civil servants, senior executives of nationalized companies, members of the professions, traders and small businessmen. The fact that children whose parents were able to afford to pay for their schooling received a better education was criticized by a fraction of the population who found this situation inconsistent with the dictates of socialist justice.

Nationalization of these schools, where the teaching staff were mainly of foreign origin, even if they opted for Algerian nationality at the time of independence, has made it possible to integrate the 40,000 children attending schools run by the Ministry for Religious Affairs and Islamic Teaching into the normal educational system. In many subjects, the curricula were of modern design, but too much of the teaching was carried out by staff of mediocre quality and retrograde mentality recruited from the Middle East (Egypt, Iraq, Lebanon, Syria).

The unification of the educational system was welcomed by the left and by modernists, but was bitterly resented by the traditionalists and conservatives, who did however receive compensation in the form of the introduction of religious

education in all schools and a change in the weekly rest day, from Sunday to Friday. The reform has had another consequence: many of the good teachers working in private schools have decided to retire or return to France, while those recruited in the Middle East have stayed on pending their replacement by Algerians.

The *ecole fondamentale* meets one of the aims of the national charter as well as requirements expressed in the second four-year plan (1974-77). It is stated in the charter that "the cultural revolution in the educational field will be oriented more towards the mastery of science and technology than towards vague knowledge offering no more than social prestige". It also states the authorities' intention to adapt the content of teaching, which was largely based on the French model, to the cultural situation in Algeria and to foreign works and policies administrative and economic objectives.

The *ecole fondamentale* will gradually supersede the present system, which is divided between the elementary and middle cycles and designed in a way which allows only a few pupils to progress from the former to the latter. The new structure comprises three organically integrated cycles of three years each, so that children will stay an extra two years at school, which will keep them off the streets.

During the "basic cycle", which is completely Arabized, active methods are applied to provide a grounding in the fundamentals (reading, writing and arithmetic) and initiation into other subjects. The "avancement cycle" builds on the basic attainments, introduces a foreign language and broadens general knowledge.

The "terminal cycle" or "orientation cycle" concentrates on the scientific disciplines, social sciences and polytechnic education, aiming to provide the student with an understanding of the processes of agricultural and industrial production and management, and an insight into the organization of work and policy-administrative life. The objective of the overall project is to promote the integration of schools into their environment.

Because of the scale of the reform and the resources required, it will be implemented gradually over the next nine years, beginning with the 532,000 six-year-olds starting at school around the country.

Altogether there are 3,242,000 children at school this year, 2,272,000 of them in the primary cycle and 453,000 in the middle cycle, the number of teaching staff being in the region of 90,000. At secondary level, there are 117,000 pupils working for the baccalauréat which they must pass if they wish to go to university. The university student population this year is 50,000 against 40,000 last year; here again, ministry policy is to encourage students as much as possible to opt for scientific and technical courses.

Since independence, the state has allocated approximately 30 per cent of the national budget to education at these various levels. In addition, the various ministries fund the technological institutes for which they are responsible, for instance the Institut agricole de Moussem, which trains agricultural specialists, the Ministry of Transport's Institut supérieur maritime de Bou Ismail, which trains officers for the merchant fleet. The army itself allocates an average of 20 per cent of its budget to vocational training.

At the time, the country was obliged to call on co-operation from abroad and hastily train staff, who were called *moniteurs* and *instituteurs*, until properly qualified teachers became available. Since then, expressed directives from the Ministry of Education have been aiming on the one hand to return to its Arab-Islamic roots and on the other to remain receptive to modern science and western civilization. The future will tell how successful it has been.

However, the quantitative effort has not been matched entirely in qualitative terms. Classes are insufficient in number and overcrowded, particularly in the large towns, where a system of half-time schooling is in operation, with children attending for two hours in the morning and two hours in the afternoon. Literacy has reached 65 per cent on average (99 per cent in the towns, 45 per cent in some rural areas and in the Sahara), but teaching standards are only moderate. The population increase of three per 1,000 and the flight of French teachers have not helped matters. There remained only 1,700 Algerians, of whom 1,200 switched to the administration to replace staff who had returned to France, and 500 French teachers.

Despite these shortcomings, it is generally agreed that bearing in mind the legacy of 150 years of colonialization, independent Algeria has made massive progress in two directions in line with clearly expressed directives from President Boumedienne, aiming on the one hand to return to its Arab-Islamic roots and on the other to remain receptive to modern science and western civilization. The future will tell how successful it has been.

The author is Algiers correspondent, Le Monde.

Ignorance may still exist but one remedy is the student educated abroad. Ministry of Education figures apply only to government-aided students, some 47,000, but if one multiplies this by three, one gets a more realistic figure. In England and the United States private schools and those teaching English are overflowing with Iranian students. Both countries are making good the deficiencies of a system which offers between two and five hours a week of tuition in English language generally poorly taught.

It is ironic that Iran should import so many foreign skilled workers while losing so many of its own. Despite strong incentives of salary and special conditions of work few Iranians can be persuaded to return to their homeland, they find whatever they do is frustrated by red tape or clashes with colleagues who have a totally Iranian education and do not readily accept new ideas and concepts.

The brain drain is considered more dangerous than a flight of capital. It is estimated that more than 20,000 professionals, mainly engineers and doctors, are working abroad and are unlikely to return. There seems to be no easy solution.

Pressures on urban parents to educate their daughters are greater. They

can see the benefits of education: better marriage prospects and a better earning capacity. Women are beginning to get top executive jobs in the private and public sectors.

But Egypt's burgeoning population and chronic poverty have kept the education system in constant crisis. The country is still roughly 70 per cent illiterate, and the number of illiterates is growing steadily. The Government has several times announced that soon all children between six and 11, the mandatory school age, will go to school, but it has not yet come close to that goal. Between 20 and 30 per cent of the eligible children are not in school, primarily because there is not enough room for them.

"We have more children than school," every year Dr Saad Gaddafi, consultant for the National Centre for Educational Research in Egypt, said. "We cannot build enough schools and we cannot prepare enough teachers. And we don't have enough money."

Egypt

System in constant crisis

by Timothy Phelps

In the early nineteenth century, Muhammad Ali, the Turk who came to power in Egypt in the wake of Napoleon's retreat, founded what may have been the first secular schools in the country.

His armed forces depended heavily on cavalry. Yet the quality of the veterans taking care of the horses was low. Muhammad Ali decided that the *khoran* schools, where students memorized the Koran, were not doing a proper job, and he established secular schools for this purpose.

With the advent of the British, more schools were founded and many had British headmasters. But it was not until after the 1952 revolution and the social programmes of President Nasser that there was a concerted effort to make secular education available to the non-privileged classes.

Since the revolution thousands of schools have been built, and most of even the small villages throughout the countryside have at least one school. Modern subjects, reading and writing, science and mathematics, are taught. Religion is taught for only two hours a week, and contrary to religious custom, boys and girls attend mixed classes up to secondary school.

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The quality of the education is often poor. There is an average of 40, and sometimes 60, children to a class, with usually one teacher to a room. The teachers themselves are often undertrained. Many of them are not graduates of the education faculties but are specialized in other areas for which there are no jobs available.

They are given a two-week summer course and put in the classroom. Although all students study a foreign language beginning in secondary school, few seem to learn it. The difficulty is that few of their teachers can converse in the language they are teaching.

At least a quarter of the best qualified teachers teach in other Arab countries, where they can make much more money than at home. Egyptians are flown to Saudi Arabia for each term. There are many Egyptians teaching in the Gulf countries, particularly Oman.

Although Egyptian teachers may be considered by some to be backward by western standards, they are the shining light of modern thought in places like Oman,

where the culture in rural areas is still medieval. One Egyptian teacher said some of his children in Oman have never seen a wheel before.

Dr Naguib Mahkawi, President of Ain Shams University, which has the largest Egyptian faculty of education (and until several years ago the only one), estimates that 25 per cent of his staff are on leave, teaching abroad.

"Egypt has always felt an obligation to the Arab world," he says, "and, with our low salaries, it gives them a chance to make some money."

Despite that forward-looking image in the Arab world, Egypt is going through something of a conservative Islamic revival. Although the urban Egyptian has never been known for strict piety, there are more and more signs of a resurgence of Islam.

A well-respected Egyptian professor of Islamic studies in Cairo said he believes that the resurgence is largely a result of the political weaknesses of President Nasser and Sadat. In times of trouble they courted the shaihs of the Al-Azhar in order to bolster their own support, he said. The intelligentsia, which he says still dominates the country, is firmly opposed to a rise of traditional Muslim influence.

After the two days of riot in Cairo in January, the shaihs of the Al-Azhar sought the support of the shaihs. His first trip in the open aftermath was to the Azhar mosque to pray, and it was given wide newspaper and television coverage.

In February, after a meeting of the Muslim and Coptic leaders, President Sadat said that "religion must be a basic and compulsory subject in our schools and that 'appropriate steps' would be taken in their direction for the coming school year."

The shaihs have less sought an expansion of the time allotted for religious training and also its extension through university level. They particularly would like religion to be counted in the student's grade average, like any other course.

Religion is on a pass-fail system and, according to the shaihs, anyone who hands in an examination paper passes. If it was counted in the grade average it would become a part of the intense competition for seats in the universities.

Such a move is strongly opposed by secular educators, who believe it would be a step backward. They believe that President Sadat is only paying lip service to the shaihs' demands and that nothing substantial will be done.

"Do you think medical students will have time for this? You cannot force it down their throats," one university professor said. One difficulty would be that there would have to be a dual system to accommodate the large Coptic minority.

It remains to be seen just how strong the religious movement is in Egypt. If it is essentially a puppet of the politicians as some of the intelligentsia believe, its effect on education and other aspects of society will probably be minimal.

However, if it is popular, the result could be quite different. The food riots of January, and the resulting backing down by the Government on increasing food prices, have shown that ordinary people of Egypt have power when they choose to exercise it.

Iran

Pioneer project in a country to watch

by Chris Powell

Iranians have always had a respect for knowledge and learning and for centuries Iran was a world centre for higher education.

The famous Gondi Shapur Medical College was founded in the third century AD and with the advent of Islam the educational tradition was revived. Nezam-ul-Mulk, the Persian vizier of the Seljuk sultans in the eleventh century, established a series of colleges named *nezhams* after himself.

"O, Ahuramazda, endow me with an educated child", is an old Zoroastrian prayer which is still relevant today. Education for an Iranian means better job prospects and more money.

In a fast-growing economy the man with special skills gets the thumbs. The right paper qualifications are a passport to top jobs in the Civil Service, commerce and industry and the modern Iranian will ignore any religious or social mores which will prevent him from achieving his goals.

It was not always like this. But Iran's ambitious industrial plans, fuelled by increasing oil revenues in the early 1970s, have created an industrial base which needs large numbers of skilled workers. Despite importing large numbers of foreigners there is still a shortage of 700,000 skilled workers.

Government spending is still not as high as some

would like. The 1977-78 budget allocation (about 220,900m rials (about 51,924m) and covers the entire system from working mothers' nursery schools to university development and teacher training.

With a population of 34 million, a fifth of whom are being educated, it is an ambitious programme which in which they find much to criticize.

Much of the country's population lives in an estimated 60,000 villages, two thirds of which have a population of fewer than 250. In 1962 there were 8,000 village schools. Today there are more than 22,000, a result of the massive educational reform initiated by the Shah's white revolution in 1963.

One of the original six points of his programme of reform and innovation was the eradication of illiteracy. Twenty years ago this was calculated at 88 per cent for men and 92 per cent for women.

The creation of the Education Corps provides for young men and women high school graduates to spend 18 months in villages teaching children and adults to read and write. The result is a higher literacy rate. An education gives the third for women, and a much needed boost to primary school attendance. This pioneer project has made Iran a country to watch among nations seeking precedents for adapting a traditional system of education to contemporary difficulties.

However, functional literacy is no longer enough for an ambitious youngster. An education gives the working classes a taste of the higher standard of living and with it a better position

in society. In theory it is no longer impossible to dream the impossible dream since, under the Shah's decrees, 1976, established a comprehensive education, it could become a reality.

However, the introduction of free education, which has never been made compulsory because of inadequate facilities in the past, means tremendous pressures on the system. One result was the recent lifting of the 1973 ban on private schools.

Recently the Iranian Government has even had discussions with British educators on the possibility of setting up schools based on the British public school system. This would create the elitist group they are supposedly trying to avoid.

The shortage of schools is matched only by the chronic shortage of teachers. Classes are overcrowded: often 80 to a class in rural areas, 40 in urban areas. City schools often work a shift system, where children attend classes either morning or afternoon, often with the same teachers at both sessions.

Estimates put the shortage of teachers at secondary and primary levels at 30,000, which has prompted the Government to propose a voluntary teaching plan whereby educated Iranians will devote two hours a week to school teaching. This has so far not been implemented. Ideally, children begin school at the age of five in kindergarten. After this comes five years of primary education followed by a "guidance" cycle which explores aptitudes and includes a number of practical subjects such as carpentry and metalwork, for girls as well as boys.

Up to grade eight at the end of the cycle education is unconditionally free and

also includes a free milk and protein biscuit programme. It appears to work well in urban areas but education is not always satisfactory elsewhere.

There are four years at the secondary level, two general and two specialized, as a preparation for university or college. The need for coordination between secondary and higher education has been recognized for some time and a new system has been devised to fill the gaps, particularly the serious shortage of skilled manpower in industry, commerce and the services.

The main principles seem to be an emphasis on moral and religious instruction, revision of curricula, good citizenship and environmental awareness towards society and the individual. On paper it looks impressive.

Unfortunately only 15 per cent of those attending secondary school come from rural areas, although the numbers are greater at the primary level. It is estimated that at the end of 1978 all children in the six to 11 age group in urban areas and 80 per cent of the same group in rural areas will be at primary school. All of them will be attending by the early 1980s if the present trend is maintained.

There is an urgent need to get away from the early elitism of the system which, with its overlay of western models, meant a stage-by-stage progression from one examination and diploma to another, rather than a comprehensive preparation for life. The new system, it is hoped, will lead to more independence of thought and greater respect for technical as well as academic

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Six stages in a Saudi Arabian achievement

1 On February 22nd, 1976, National Chemical Industries Ltd. was invited to enter into competition with 41 other companies for the construction of 154 schools throughout Saudi Arabia. Each company was required to submit its own complete proposal, covering every stage from design to erection, with a submission deadline date of April 10th. Conceived as the mainspring of the Second Five Year Plan, this massive building development would provide classrooms for about 105,000 students.

Two weeks after the deadline, the number of competing companies had been narrowed to a short-list of fourteen. On June 2nd, contracts were signed allocating twenty-three schools to NCI, the highest number allotted to any single company, and the only contract awarded to a Saudi manufacturer.

Now, in March 1977, NCI has completed its quota and handed the schools over to the Ministry of Education.

The Government's original aim was to satisfy an urgent need for additional school facilities, if necessary by importing temporary buildings. However, the NCI schools are permanent structures. They have been designed to the highest aesthetic, functional and safety standards. They have been built largely from steel, reinforced concrete and reinforced polyester cladding manufactured in Saudi Arabia within the NCI Group, and completed, on time, at highly competitive prices.

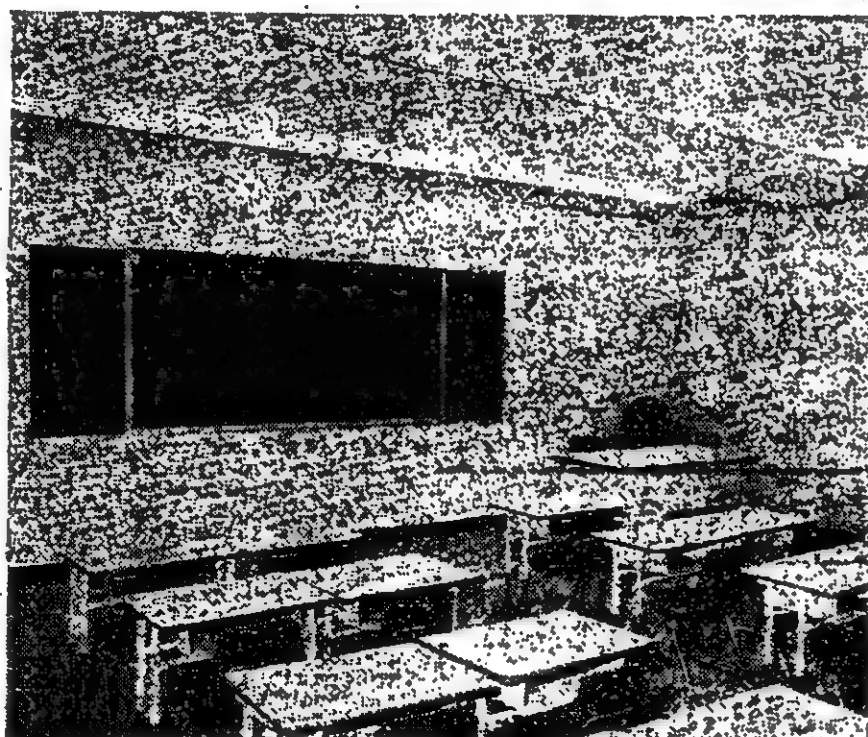
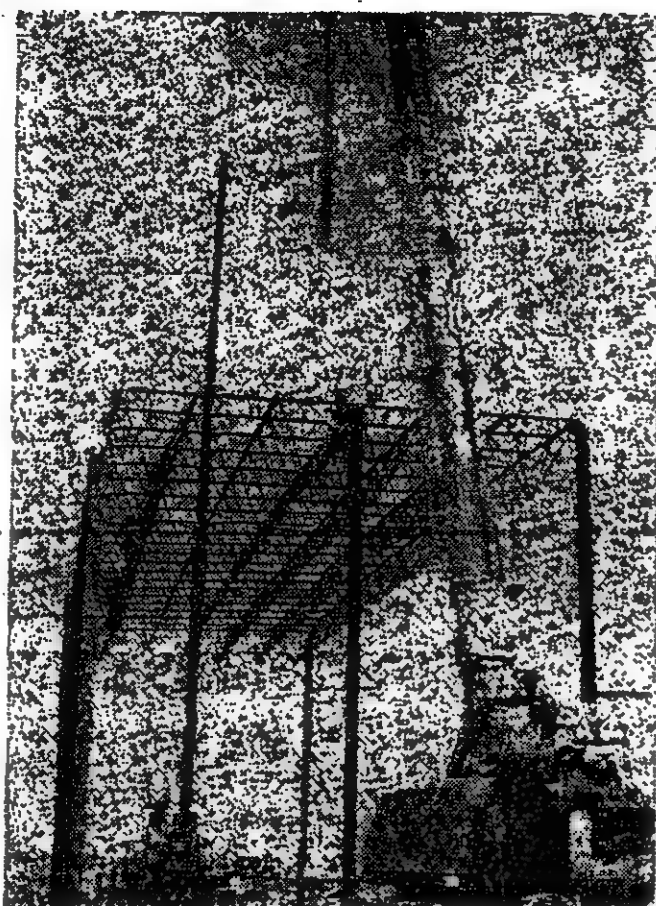
2 The Kingdom of Saudi Arabia is bisected by the Tropic of Cancer and suffers from harsh climatic conditions. From the beginning, NCI were aware that a successful school building programme must take full account of these conditions. It was for this reason that they turned to the Canadian partnership, PGL Architects. Internationally renowned for the Mirabel Passenger Terminal at Montreal Airport and the Quebec Pavilion at Montreal's 'Expo '67', PGL had also pioneered the development of largely prefabricated structures for schools and scientific laboratories inside the Arctic Circle. They are no strangers to the particular design problems posed by extreme weather and very isolated construction sites, which proved to be valuable experience in both the Arctic and the Tropics.

PGL's design for the NCI schools called for concrete foundations and steel columns supporting light-weight steel spaceframes forming the first floor and roof. The exterior walls would consist of prefabricated panels of glass-reinforced polyester, 'GRP', specially moulded to take advantage of the interesting shadows cast by a bright overhead sun. Careful thought was given to the use of colour and form as a means of harmonising the schools with existing buildings in a desert environment. The design was extremely flexible, and the architects ensured that the completed structure would be highly resilient, well insulated, durable and very economical to maintain—a vital requirement in Saudi Arabia.

3 Perhaps the single most distinctive feature of an NCI school is the extensive use of a structural steel system designed by the British company, Space Decks Limited. The Space Deck System is now generally recognised as a world leader in its field, and like most truly original concepts, simplicity is the key to its popularity.

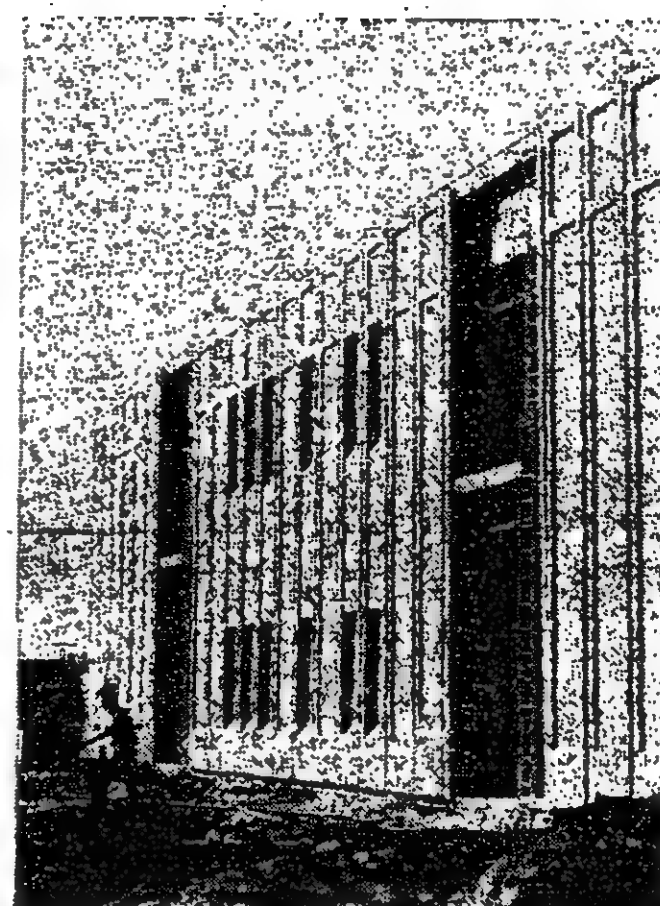
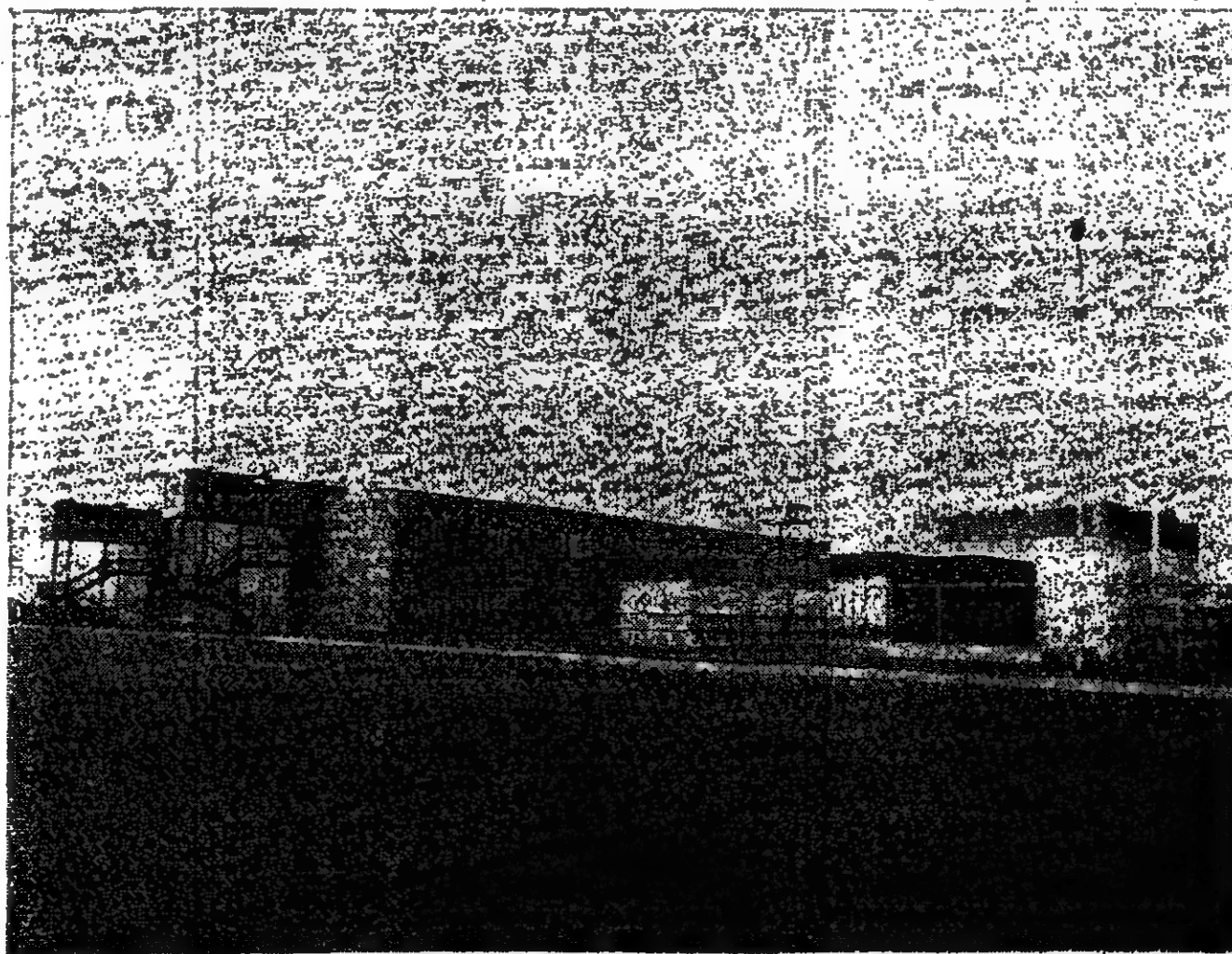
The basic unit consists of eight steel members, welded to form a rigid inverted pyramid. These pyramids can be bolted together at the construction site and hoisted into position without the use of skilled labour, to provide large areas of clearspan load-bearing decks, as well as flat or cambered roofing.

NCI is Space Decks' largest customer, and the controlling shareholder in Beyer Peacock, the light engineering group which includes Space Decks. To meet the demands of the Schools Programme, NCI took over 60% of Space Decks' production capacity in 1976. The raw materials, in the form of angular and tubular steel bars, bosses and tie rods, were produced at the company's headquarters in Chard, Somerset,



and shipped direct to Jeddah for manufacture in the NCI steel factory.

Working to fine tolerances and rigorous standards of quality control, the factory produced 1,100 pyramid units per day at the height of the programme, representing 1,500 square metres of roofing space, finished, stacked, palletised and delivered direct to the site.



4 All the exterior wall sections of the NCI schools were fabricated by NCI's GRP factory in Jeddah, employing 200 men. The Company devotes considerable energy to a development programme which adds continuously to the range of its products moulded from glass-reinforced polyester and other polymers.

As a first stage in the Schools Programme, master moulds for all the wall panels required were hand-made in wood by NCI craftsmen. From these, a series of GRP moulds were fashioned, which when used to maximum capacity, could produce enough panels for two two-storey, twenty-four classroom schools. All in all, over 7,000 GRP panels were produced. The constituent resin was chemically pigmented so there was no need for further painting, and all panels were individually checked before despatch to the twenty-three different sites.

5 In order to guarantee the efficient and fast delivery of a staggering 50,000 tons of imported materials for the Schools Programme, the Company adopted a policy of direct control over its transport facilities, backed by the experience of established transport companies.

P&O Special Projects Division was hired to handle all imports from Western Europe and the United States using roll-on/roll-off vessels. Meanwhile, NCI faced the challenge of covering twenty-three sites in a

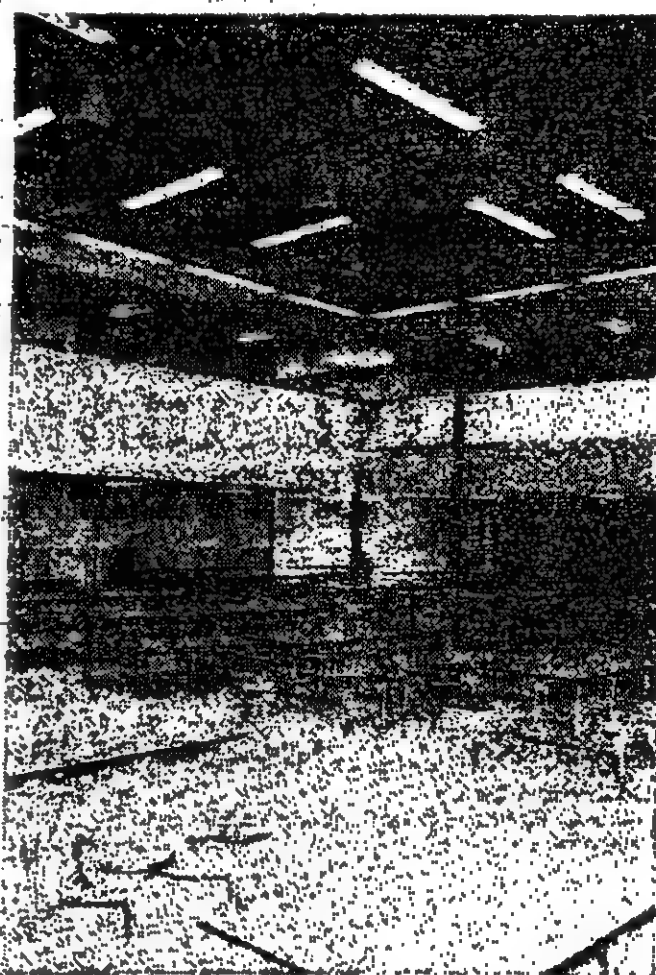
country roughly the size of Western Europe with a fleet of trucks over fifty strong, based 26 kilometres from Jeddah on the highway to Mecca.

Over the last year, transportation played a large part in ensuring that all deadlines were met throughout the school-building programme. This is a considerable achievement by any standards, especially in view of the problems of port congestion in Jeddah which have only recently been overcome.

6 The success of NCI's school-building programme rested on the Company's ability to marshal its own resources and those of PGL Architects and P&O.

The construction of 115,000 square metres of school facilities within the contract period called for all necessary components for a complete building system to be manufactured at the NCI factories in Jeddah.

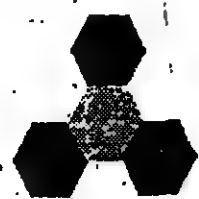
Though pre-engineered, it must be emphasised that each school is a permanent structure. The external GRP cladding panels provide good weather resistance and excellent insulation due to their sandwich construction. The internal walls and partitions consist of gypsum boards attached to a metal stud system, and are insulated for sound-between classrooms and corridors with fibre wool.



Each building is centrally air-conditioned, a considerable advantage over simpler prefabricated structures. The school is a self-contained unit with its own complete infrastructure, including independent power, water and sewerage systems, and provides either eighteen or twenty-four classrooms for 576 and 768 children respectively. A large central dining area caters for all students in two sittings, and provides a free midday meal from food prepared on the premises. Apart from the classrooms, each school contains administrative facilities, a headmaster's office and two staff common rooms, as well as a spacious library.

Outside, a unique feature of NCI's schools is the large play area protected from the sun by a Space Deck canopy supported 8 metres (26 feet) above ground on steel columns. Planned as a multi-purpose volleyball, basketball and general recreation area, the dimensions of the canopy are identical to those of the main school building, so the canopy could easily be used as the shell of a future extension if the Government wished to expand the facilities.

NCI has tackled the challenge of one of Saudi Arabia's most intensive building programmes to date. At the beginning of the new school year, over 15,000 children will begin their education in NCI-built schools. Due to the tremendous priority given to educational development by the Saudi Arabian Government, it is no exaggeration to say that these children will now have a standard of educational facilities comparable to the most advanced schools in the world's leading industrial nations.



National Chemical Industries Ltd.

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Pakistan

Peasants to gain from new strategy

by Hasan Akhtar

Thirty years ago Pakistan emerged from partition of the Indian sub-continent as one of the world's poorest states, with a literacy rate of only 10 to 12 per cent.

For a population of 32 million, there were about 8,400 primary schools, 2,600 secondary schools and two universities. There were two engineering colleges and two medical colleges with a capacity to produce annually 123 graduate engineers and 50 graduate doctors.

The total expenditure by the Government on education during the new state's first year was only Rs23m. The education system then in use was formulated by the colonial British Government in India, which was unable to meet the needs of the country for training government jobs in lower echelons of the administration.

After independence the immediate task was to provide more educational institutions of all kinds for an increasing number of pupils and to evolve a system of education which could meet Pakistan's distinctive requirements.

There were two immediate difficulties to be faced: a population growth rate of more than 3.5 per cent and the inadequate financial and technical resources of an underdeveloped state. The situation was further complicated by the fact that the country was unable to define clearly its development priorities and lacked the political stability which was vital for socio-economic progress.

Education received a very low priority in the Government's plans. As it was, the Muslims under British rule had been largely apathetic towards modern education, notwithstanding the injunction of the prophet Muhammad to seek knowledge even if in their quest one was required to go as far as China.

Efforts to expand education and introduce reforms were made after independence but they did not have on appreciable national impact. The main reason for this failure was lack of financial resources and

skilled manpower to run education programmes.

Until 1975 Pakistan spent only Rs31 a head on education, which amounted to 1.8 per cent of gross national product. Though education expenditure was raised over the years it remained the lowest among developing countries with a similar national income, which spent between 2.3 and 2.5 per cent of gnp on education.

In 1972 the Government formulated a new education policy on the basis of an eight-year development programme. It is estimated that the past five years of the programme will cost Rs9,000m. The new policy seeks to achieve well-defined objectives, with emphasis on promotion of the ideological basis of Pakistan, introduction of an agro-technical bias in school education and reduction of the rate of illiteracy within the shortest possible time through enforcement of free compulsory education and massive adult literacy programme.

State control was first step

The new educational strategy is to concentrate more on expansion of primary education by providing larger financial allocations to it instead of spending proportionately larger sums on higher education, make it readily and equally accessible to children from less privileged classes, particularly the peasants and workers, and reduce capital outlays.

In pursuance of altered priorities in education and the new strategy the Government as a first step decided to bring education within the public sector. A total of 3,334 privately managed schools and colleges were nationalised. They included colleges teaching science, the humanities and professional courses and 346 madrasahs (schools concentrating on religious education).

The next step was to revise school and college curricula to make education more functional. For this purpose, a federal bureau of

curricula was set up with experts working on evolving new courses of studies in different subjects at various levels. School education was made free in order to make it universal. The new education policy aims at providing by 1980 primary education free to all boys and 70 per cent of girls between the ages of five and nine.

By the time the new educational programme had covered half its stipulated run, it was discovered that achievement fell far short of expectations. The main reason for this was paucity of funds, money allocated for education was diverted to meet the expenses arising out of disasters like floods. The annual enrolment rate of children at the primary level was limited to 20 per cent as against the target of 55 per cent. Similar limitations were imposed on middle and secondary schools.

Significant results were attained, however, in higher education. The number of universities rose to nine, including two separate universities for engineering and agriculture.

An open university was set up with the technical support of the Open University in Britain as part of the mass education programme, which aims to impart basic education to 11 million adults by 1980. In order to coordinate development of higher education a university grants commission has been established.

Female education is another area where the new policy has met with considerable success. Segregated education for women, particularly at the school level and, in socially backward regions, at college level, was necessary in view of Islam's strict injunction for women to observe purdah.

At the end of last year the percentage share of girls' enrolment in a year was 29.8 at primary level, 26.1 at middle level and 30.1 at college level, significantly higher than 10 years ago. The turn-out from the engineering and medical colleges has risen five-fold in 10 years. A number of engineering colleges have been added over the years, with an annual output of about 1,600. The medical colleges have been able to provide every year about 1,100 graduates.

Care was taken to exclude from theological studies any issues which might exacerbate sectarian prejudices. Provision has been made at post-school stages and even at the level of higher education for Islamic and Pakistani studies with a distinct bias towards creating among the students a spirit of Islamic brotherhood and cultural affinity with Muslims in other parts of the world, particularly in the Middle East.

uates, including about 400 women.

Two innovations in schools under the new policy have been the introduction of a distinct agro-technical bias for classes at levels seven and eight and the introduction of Islamic studies (study of Islam) and Deeniat (theology) as a compulsory subject up to class 10.

The new policy emphasises the study of ideological basis for the existence of Pakistan, mainly on the ground that for a healthy ideological development of the country such studies are essential. The education policy envisaged that the study of Islam should not remain an isolated item in the curriculum but that the values and the spirit of Islam should be woven into the entire warp and woof of our educational fabric.

Another reason for emphasizing the need to adhere to Islamic values stems from the fact that Pakistan is a country with a varied cultural heritage and different regional languages. Its 70 million people speak five languages and are proud of their distinctive cultural heritage.

Although sectarian prejudices have been occasionally very sharp in Pakistan, the National Bureau of Curriculum was able to achieve agreement among the leaders of the Sunni and Shia sects in evolving an agreed course of studies for classes one to 10.

A single course of studies in Islamiat was prepared for both sects up to class-eight. The course includes study of the Koran, the life of Muhammad and the general code for a Muslim. The course prescribed for classes nine and 10 includes separate studies for Sunni and Shia students on the rituals of the two sects.

Provision has been made to exclude from theological studies any issues which might exacerbate sectarian prejudices. Provision has been made at post-school stages and even at the level of higher education for Islamic and Pakistani studies with a distinct bias towards creating among the students a spirit of Islamic brotherhood and cultural affinity with Muslims in other parts of the world, particularly in the Middle East.

However, the Army-backed Government of President Suharto is not at all anxious to see a widening of the division between the independent Muslim schools and the education system covering the country, which is presently under the control of the Ministry of Education.

To help to bridge the growing gap between the traditionalists and the secular

by Sinan Fisek

After he led Turkey to independence in the early 1920s, Kemal Ataturk transformed his country almost overnight from a religious Koranic state to a secular western republic.

"Culture shock" was inevitable, and for more than 50 years a small proportion of Turks—about a tenth of the adult population—yearned for the day when the Koran would once again be law and the "decadent western ways" imposed by Ataturk would be abandoned.

That sometimes vocal and, according to some observers, well-organized minority is still far from having its way. But it has found a champion for its cause in the person of Professor Necmettin Erbakan, who leads the National Salvation Party, a pro-Islamic organization which is the second largest partner of Turkey's four-party coalition Government, and which preaches spiritual and economic development according to the teachings of the Koran.

Ataturk himself never much liked things religious, and often dealt harshly with uprisings. But he tolerated religion as long as it was kept well away from politics and secular education.

Today, the NSP, an active and influential member of the Demirel Government coalition, much to the dis-

may of most Turks, has succeeded in imposing some of its views on the educational system, although the Ministry of National Education is headed by Mr Ali Naili Erdem, a member of Mr Demirel's pro-Western, conservative Justice Party.

Under pressure from the NSP, as well as another extremist member of the coalition, former colonel Alparslan Turkes's right-wing National Action Party, Mr Erdem has imposed a system of changes in the schools which were met with howls of disapproval by progressive, liberal and Kemalist circles.

To begin with, large numbers of socialist teachers were moved around the country, or taken off duty and replaced where possible by "nationalists". Second, the ministry decided on what it calls the "single book system" in secondary education. Under it every school in Turkey is to study a single book on a given subject.

Unfortunately, the choice of writers was an unhappy one. Sentences such as "all people can be honourable, but obviously the honour of a worker cannot be equal to that of a doctor" in the textbook on morals understandably created somewhat of a furor. So did the tenth grade textbook entitled *Introduction to Philosophy*. The line, "Shit is approved of and practice adultery", was roundly condemned, especially by the traditionally progressive Turkish Shites, who make

up more than one third of the country's 98 per cent Muslim population.

Even Mr Erdem conceded that errors have been made and ordered the offensive pages to be torn out while a ministerial committee began to reexamine the books.

Another point which angered progressive circles was the unusually large number of religious preachers and imams' schools opened under pressure from Professor Erbakan.

"Never in its history has Turkey had more than 89 religious training schools," an observer said, "but there are today 244 preachers' schools and 50 more are about to be opened."

In a country struggling to become a member of the European Community and an integral part of the western world, but which still has an illiteracy rate of nearly 50 per cent, such a number of religious schools—which end up being hotbeds of reaction—appear to be uncalled for.

Religious extremism was strictly suppressed under Ataturk and did not reappear publicly until the 1950s. Demirel's party, headed by Mr Adnan Menderes, who was executed after the 1960 military coup, came to power.

It has made its presence felt to a greater or lesser degree since then, receiving aid and support from various Muslim countries, notably from Saudi Arabia. But never before had it so

openly attacked the so-far sacrosanct educational establishment in Turkey.

Despite official pressures, however, many teachers are resisting, as are many students, although some of them are forcibly being kept out of the classrooms.

Official circles deny that religion and rightist rhetoric are taking over in Turkish schools, and say that the new system aims only at "preserving our national values" and sense of "morals".

Others, such as Mr Mustafa Ustundag, Minister of National Education in the Government of Mr Bilent Ecevit, disagree completely. "This Government is clearly trying to force Turkish education back into the scholasticism of the dark ages," he says. "Every line where reform, Kuran or westernization was mentioned has been knocked out of the new school books. This Government is obviously trying to keep the masses ignorant and, at the same time, trying to produce a generation reared on backward ideas."

He hopes that his party, the social democratic Republican People's Party, the largest in Parliament, will emerge from this year's elections with enough of a lead to come to power alone so that this backward trend can be nipped in the bud.

Mr Ustundag thinks that the new system has not been effective so far, mainly because of the teachers' and students' decision to resist. "But if this were to con-

tinue for a decade," he says, "it would probably have a certain amount of success, and do great harm to the country. The result would be that, at a time when even the most backward of Third World countries are striving to advance and educate themselves, Turkey would not obviously go inexorably backwards, but would face a further major delay in its progress."

The changes made by the present Government will be eliminated if and when the Republican People's Party comes to power, but these radical switches coming with changes in the government "will do great harm to the Turkish educational system", Mr Ustundag says, "and we will not know for years and years how much harm actually has been done."

He and other urban intellectuals believe that attempts "to take Turkish education back to the dark ages" are bound to fail. They argue that in underdeveloped or developing countries such as Turkey, religion helps to keep the majority of the people ignorant, particularly in the poorer regions of the country, in order to keep a form of primitive capitalism functioning for the benefit of a privileged minority.

Most sincere believers, though, deplore the use of religion as an instrument to this end. There is a verse in the Koran which says: "There can be no use of force in religion."

Indonesia

Two streams may meet one day

by David Jenkins

Thirty-two years after independence the secular schools and universities established by the Republic of Indonesia have outstripped in importance the old Islamic boarding schools (pesantren) which did so much to promote religious education in the face of a sustained challenge from western (Dutch) educational influences during the colonial period.

However, the Army-backed Government of President Suharto is not at all anxious to see a widening of the division between the independent Muslim schools and the education system covering the country, which is presently under the control of the Ministry of Education.

To help to bridge the growing gap between the traditionalists and the secular

modernists, it has lately been making numerous grants for new pesantren books and buildings.

It hopes that the two educational streams will merge eventually. For the moment, though, there is a clear and obvious difference between the two systems.

In the government schools, children begin their elementary education at the age of six or seven and, six years later, may go on to three years of junior secondary school education and another three years of senior secondary school education. A further three years of tertiary education may follow.

In 1970 there were 12,800,000 children at primary school, or 53.6 per cent of the school-age population at this level.

In the junior high schools, there were 737,000 pupils, a mere 7 per cent of the

school-age population for that level. At the senior high school level, only 5 per cent (417,000) of the school-age population were enrolled and there were 127,000 university students.

Despite considerable strides in education over the past few years, government planners admit that in 1979 there will still be places for only 85 per cent of the children aged between seven and 12.

Unlike the government schools, which are under the direct control of the Ministry of Education, the pesantren are small, village-level schools controlled by the local community and run by imams and other religious teachers. Financial support generally comes from local religious elders and *hatis*.

In a pesantren, a child is taught to be a good Muslim. He is schooled in the latest of Islamic teaching, taught to pray in the correct manner, taught to read and write and expected to memorize certain sections of the Koran. Through the medium of instruction is Bahasa Indonesia, the national language. It is also given a grounding in Arabic.

Pesantren, which exist throughout Java (and, under different names, in the outer islands), provide the backbone of village education. They are the main vehicle of Islamic teaching, and life is still controlled by traditional forces and where the symbol of unity is the local mosque.

The education provided is centred almost exclusively on religious and traditional subjects. There is little or no instruction in science, social studies and hygiene, although *Silat*, the Malay art of self-defence, is sometimes taught.

Education is provided in a pesantren to junior secondary school level but because education begins quite late in the village environment, a child might be 10 years old before he enters primary school at 15 or 16 by the time he finishes.

Originally pesantren were a progressive force. Founded by Islamic elders as a means of sustaining Islamic teaching at a time of serious challenge from the Dutch, they played an important role in the Indonesian independence struggle.

But with the progress in government-funded education and the growing emphasis on modern, practical subjects, pesantren have fallen very far behind. To many Indonesians, they are run in the same old groove at a time when there is a need for an expansion of educational horizons.

Many Indonesians felt that pesantren need to be upgraded so that they can catch up with the government schools. There is a feeling that they simply do not provide students with the necessary preparation for life in the modern world.

Basically, one western-educated Indonesian says, "pesantren teaching prepares people for the life after death. What they need also is preparation for the life after school."

Islamic teaching is, theoretically, adaptable, many

Indonesians argue, and so there is no reason why the traditional pesantren curriculum cannot be updated. "Just look at what Kemal Ataturk did in Turkey," one Indonesian says.

This, of course, is the very message the Indonesian Government is striving to put across. The Ministry of Education would like slowly to integrate and upgrade the pesantren so that they will eventually be absorbed into the modernist education system.

Standing somewhere between the pesantren and the Government-run schools but with their feet planted very firmly in the modern world, are the *muhammadiyah* schools.

A modernist social-religious organization established in Jemberkarta in 1912, the Muhammadiyah was spread rapidly and today runs primary and high schools throughout Indonesia and even several universities.

Muhammadiyah schools cover the full range of modern education in their curricula and their deans and professors are accepted without question by the Government.

Unlike pupils from the pesantren, muhammadiyah graduates are free to sit for all government examinations and many do very well. At private schools and universities, these institutions are covered by Government education regulations and are directly answerable to the Ministry of Education.

The author is Jakarta correspondent, the Far Eastern Economic Review.

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Qualifications: B.Sc. in Engineering or Architecture and 5 years' experience in designing and supervising.
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Qualifications: B.Sc. in Engineering and 5 years of experience in designing and supervising.

Soviet Union

Religious practice discouraged

by David Montgomery

With more than 40 million people of Muslim cultural heritage, almost a sixth of its total population, the Soviet Union has the fourth largest Muslim population, after Indonesia, Pakistan and India.

Soviet Muslims are for the most part Turkic-speaking and are found in three main areas: the region east of the central course of the Volga (Tatars and Bashkirs), the Caucasus region (Azerbaijani, Dagestanis) and Central Asia (Kazaks, Kirghizes, Turkomans, Uzbeks and Tajiks).

The Tajiks and some Dagestanis are non-Turkic. The latter are of Iranian descent and about 10 million are the largest single group. Most of the Soviet Muslims are of a Sunnī heritage, the main exception being the Azeris, who here a Shiite religious tradition.

Islam began to spread among the peoples of what is now the Soviet Union more than a thousand years ago, the process of conversion from paganism continuing among the nomadic Kazaks until the end of the eighteenth century. Soon after the start of the conversion, especially in the more sedentary areas of the Caucasus and Central Asia, fully institutionalized Islam with mosques, schools and law courts was established.

In contrast with the Soviet Government, which interested little with the institution and practice of Islam, the Soviet Government has greatly restricted the scope of institutional Islam and has discouraged overt religious practice.

Apart from China, which also has a sizeable number of people of Muslim heritage, the legally established Islamic educational system in the Soviet Union is hardly less adequate to fulfil the spiritual needs of those who desire to participate in the religion than in any other country with a large number of Muslims.

Thus, the Soviet Muslims, having limited facilities for formal religious education

and practice, to a great extent maintain their Islamic beliefs and customs by means of informal instruction and private observances.

The incorporation into the Russian state of the peoples who now constitute the Muslim population of the Soviet Union began in the mid-sixteenth century with the conquest of the Volga basin and continued till the end of the nineteenth century when Central Asia came under Russian control. The early period of Russian expansion featured sporadic attempts to convert the Muslims to Christianity, but generally, except for the assertion of the ultimate supremacy of Russian law over Islamic law, there was little attempt to interfere with the basic Muslim culture and society.

Literacy among the Muslims of the Russian empire was not widespread, but it was esteemed. Education offered upward mobility in the religious and secular hierarchical systems. Many mosques had an associated *maktab* where basic instruction in reading and writing was offered. The urban areas had *madrasahs* which provided more advanced and varied instruction.

Education was oriented toward religion and placed emphasis on acquiring a knowledge of Arabic and Persian. In the north Kazan river valleys, fully institutionalized Islam with mosques, schools and law courts was established. At the beginning of the twentieth century there was a movement among some Muslims in the Russian empire to establish secular schools with modern curriculums and instruction in Turkic.

The newly-formed Soviet Government effected great changes in the Muslim educational establishment. Education was decreed to be a function of the state and was taken over from the religious bodies.

For a while, in Central Asia and other Islamic areas, traditional Muslim schools and the newer Soviet-style schools both operated; however, in the view of the Government, the religiously oriented *maktab* continued on facing page

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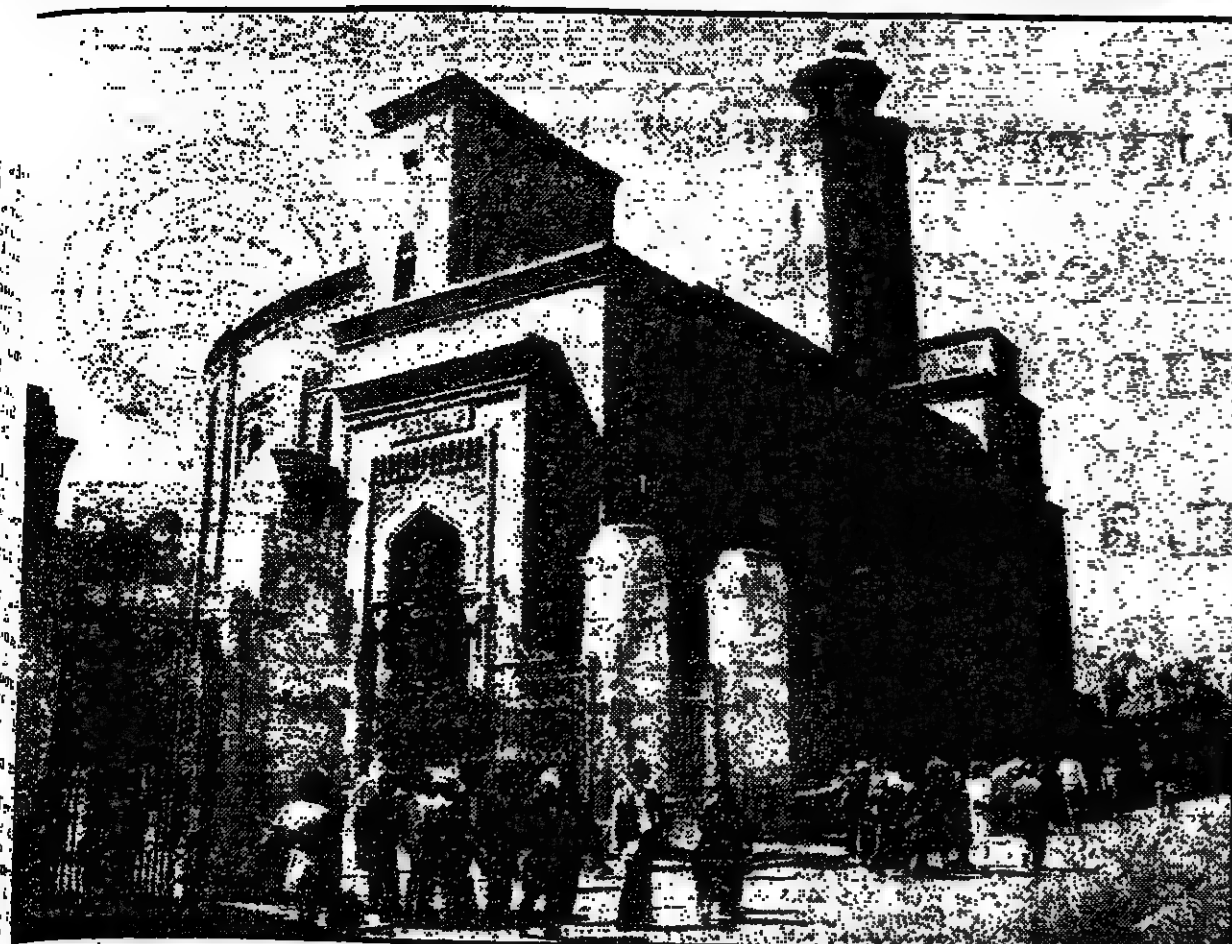
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Greetings to the First
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Muslim Education



The main gate of the university, with the Sultan Abdul lecture hall.

Al-Azhar University, Cairo

Origins in propaganda

by A. L. Tibawi

The broad principles of Islamic education are rooted in the divine revelation as enshrined in the Koran. At its very inception this education was imparted orally according to the pre-Islamic tradition of transmitting tribal poetry. The Koran itself was proclaimed orally by the Prophet Muhammad and propagated by his followers by word of mouth. Only after a generation was it written down in an authorised version.

During that formative period practically all education was concerned with the teaching and preaching of the holy writ. Neither during the lifetime of the Prophet nor under his immediate successors was there any conscious effort to establish even the rudiments of secular schools.

Since the mosque (al-masjid) served as the heart of religious, political and communal affairs, it was also made to serve as the centre of all educational activity. This circumstance gave it one of its permanent characteristics.

In 699 Egypt fell to the Muslims. Their military commander, amir al-Fustat, set up just outside the old city and in the centre of the camp he began the building of a mosque which he called al-Azhar. After its completion in 705, it was inaugurated and a few years later it was used also in the propagation of the new message by specially trained preachers. They preached also in the new caliphal mosque near by and in a new institution called Dar al-ilm (House of Learning).

Preaching at the three places was under the control of a high dignitary significantly called chief propagandist. All those who were under him were called state servants, and all those who attended the lectures were called scholars, and living quarters were assigned to those who needed them.

There was a parallel development in the Sunni camp, although there it took a long time in the making. The counterpart of al-Azhar was an institution called al-Nadwah (higher school or college) devoted to the study of Islamic law, theology, exegesis and the auxiliary Arabic disciplines. The most celebrated

school under this system was the Nizamiyah in Baghdad. Here again the teachers were paid by the state and the students received allowances and were given free lodgings. The madrasah suffered no revolutionary change such as was the fate of al-Azhar after nearly two hundred years under the Fatimids. After Saladin's rise to power and his consolidation in the government of Egypt by the Abbasid Caliph, al-Azhar was changed into a Sunni institution, and has remained so ever since under successive Islamic dynasties. Its curriculum embraced Koranic exegesis, theology, jurisprudence and the sciences of the Arabic language.

Under the Ottoman sultans it gained in prestige and in shrank (receded) to become the head of the ulama corps. It increasingly attracted students from all parts of the Ottoman Empire and also from distant Islamic countries beyond its borders. That is indicated in the growth of residential halls for foreign students within the original building and in the precincts bearing the national or regional names of the occupants.

Increased endowments made it possible to enlarge the buildings and to admit more students with corresponding increase in the number of teachers. But the curriculum hardly changed. Although some of the professors are reputed to have pursued the study of medicine, physical and medical sciences, there is no evidence that they taught those or similar disciplines.

Such were the conditions when in 1798 Napoleon invaded Egypt. In the spirit of the French Revolution, the French left Egypt. Muhammad Ali, the semi-independent ruler of the Ottoman sultan, embarked on a scheme of modernization including the establishment of new schools, parallel to and independent of the traditional schools.

Modelled on European lines, the new schools were designed to help the creation of a new army. Al-Azhar was indirectly involved in that many of the schoolteachers were recruited from its ranks. The Ottoman sultan, in that almost all those selected for further training in Europe were former students. As a result the institution found itself

ern Arabic literature, who after further education at the Sorbonne, became successful university professors. The first attempt at modernization came in 1872 when it was proposed to establish some academic standard for the appointment of professors and the certification of students. However, a student merely received a personal certificate or licence to teach from his own teacher.

The introduction of some measure of control in this direction was delayed by the crisis that led to the British occupation. Thereafter, the most prominent figure in the drive for modernization was Muhammad Abdou, who became the leader of the movement not only in al-Azhar but also in the whole Muslim world.

A graduate of and lecturer at al-Azhar, he sought to reform it by establishing academic standards and by introducing new subjects in the traditional curriculum. He set a good example by the breadth and depth of his own lectures and his general liberal approach. He exerted great influence on a host of disciples, many of whom became leaders in their communities in Egypt and elsewhere.

But even Abdou failed to produce a radical change in al-Azhar, which continued well into this century along the same old lines, and became even more of a citadel of tradition and conservatism. No change in its curriculum or regulations could greatly alter this character.

On the eve of the First World War a proposal was put forward to change the name from al-jami' al-Azhar to al-jami' al-Fustat, from mosque to university. It was the Government and not the institution itself that refused to sanction the change, preferring to reserve the designation university for the private university that was founded in Cairo. University al-Azhar became increasingly associated with the establishment. Its rector was selected and appointed by the ruler, not by his peers.

About that time al-Azhar had more than 300 teachers and some 10,000 students. Its graduates were legion. In Egypt, two of them deserve special mention. The first is Zuhair Pascha, who led the Egyptian national movement against the British and influenced the people with his oratory. The second is Taha Hussein, the pioneer in modern Arabic literature.

Religious practice discouraged

Soviet Government. After the war, and more so since the death of Stalin, the official attitude to religion has been slightly more relaxed. Since the war a small number of Soviet Muslims have been permitted each year to make the pilgrimage to Mecca. The Central Asian Spiritual Directorate located in Tashkent appears to have been the most active in providing the legally limited means which are possible for religious education through a low level programme of publication and instruction. The Tashkent Directorate produced two Arabic language editions of the Koran in 1947 and 1964 and each year publishes a small number of religious calendars.

In 1945 at Bukhara, which is under the jurisdiction of Tashkent, a school was opened to train Koran readers, preachers and prayer-callers for the few hundred functioning mosques in the Soviet Union. Since 1952 the school has been housed in the Miri Arab madrese, founded in 1535, but closed after the revolution. The course of instruction lasts five years and includes the theology and the Arabic language. Also, some religious edu-

cation is given to prospective clerical functionaries at the Barak Khan madrese in Tashkent. Occasionally graduates have been sent to Cairo or Rabat for further instruction. The number of students enrolled is between 100 and 150. The small number of graduates is not enough to replace the older mullahs as they die off.

Because of a declining number of trained religious functionaries, limited textual material and few officially functioning mosques, maintaining Islamic traditions and practices is becoming increasingly difficult. Correct and complete theological knowledge and ritual practice is understood by fewer people with the passage of time.

However, the concept of being a Muslim is strongly maintained by the vast majority of the traditionally Islamic Soviet peoples, although the focus is in some ways shifting from a theological to a social identification. Soviet literature makes mention of the term "non-believing Muslim", but even among this category circumcision is practised and feast days are often observed. Incentive to be a "non-believing Muslim" is great in a state where upward

by Robert Fisk

When Daniel Elias was asked by the Protestant church 112 years ago to create a new college in Syria, he never knew how dramatic, and how heroic, his words would sound during the worst days of the Lebanese civil war.

Standing in the tall, mock-gothic hall, he announced that the new university in Beirut (Lebanon was part of Syria in the nineteenth century) would be open to all, whether Muslim, Christian or Jew. A student, Elias said, could believe in one god or many gods or no god.

Cynics might argue that when the university's greatest test came last year, some of the students could have been forgiven for forsaking every religion. Yet the academic faculties of the American University in Beirut managed, through the courage of the staff and students, through some adroit financial schemes, and probably a lot of prayers, to continue almost uninter-

rupted. The university which Elias founded as the Syrian Protestant College is not only still functioning above the slopes of Ras-Beirut above the Mediterranean, but is preparing its academic programme for 1977-78.

With an annual intake of between 3,500 and 5,000 students, the American University, or AUB as it is popularly known in Beirut, is one of the best-known academic centres in the Middle East. At the beginning of

the 1974 academic year, students came from 70 countries to study at the institution with its five libraries and 75-acre campus.

Its medical centre, completed at a cost of about \$20m with a United States grant, contains its own medical students' hospital, science building and 420-bed hospital.

While several buildings suffered during the war (mortars and shelling caused many thousands of pounds worth of damage when they smashed through the air conditioning plants on the medical blocks) and the only library, essential to run the hospital under fire and under great personal danger, gunmen roamed the hospital corridors seeking help for wounded friends, ordering medical staff at the point of a gun to perform immediate operations on members of paramilitary groups who were needed in the battles.

As the first cease-fires of 1976 allowed the Beirut population a desperate prospect of peace, the other faculties of the university—arts and sciences, agriculture, engineering and architecture—reopened, but when the fighting resumed in all this time, the university staff at the AUB exodus of professors, lecturers and then students left Lebanon.

In October, 1975, the university did not open for the winter term and the president announced that the academic year would



Eyes left: the courses are open to all.

— Ed Mullis

begin the following January. The medicine and nursing schools never closed.

Palestinian, Maronite, Greek Orthodox, Muslim and Roman Catholic doctors and engineers and doctors continued to run the hospital under fire and under great personal danger. Gunmen roamed the hospital corridors seeking help for wounded friends, ordering medical staff at the point of a gun to perform immediate operations on members of paramilitary groups who were needed in the battles.

By the summer, the medical faculty was down to 45 per cent of its complement and only 45 of the 180 doctors in the medical school remained to take care of the patients, 75 per cent of them battle casualties, and teach medical students.

One student was killed by a mortar explosion and another died near the seafront on the university campus. Twenty students were wounded by the 49 shells that fell on to the university grounds. Other students were kidnapped on the streets. Still more were forced to join Muslim-Christian armies by the

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Government said it would pay £18 a day for each casualty the hospital treated although treatment in fact cost about £40 a day. The Government still owes the university £1m.

University officials begged creditors for loans but, like most people in Beirut, those who did not pay their electricity or water bills.

Six students were murdered, but the university still managed to remain open. A thousand enrolled for the winter term of 1976.

Medical supplies came into Lebanon for the hospital from the United States Disaster Relief Agency, first through Beirut Airport, then, when the airport closed, by road from Damascus. Almost £2m worth of medical supplies arrived and AUB shared 40 per cent of them with other hospitals in the city.

In the university administrative offices today, professors are working out the final details of the 1977 academic year and AUB will once again be offering more than a dozen kinds of bachelors' and masters' degrees. Only the PhD courses have been temporarily frozen because of the war.

Apart from the basic degrees in English, history, chemistry, biology, mathematics, physics, geology, economics and social and behavioural sciences, AUB is also still offering degrees in Arabic and Near Eastern languages.

The university is still, as it was at its foundation ceremony when Elias made his memorable statement, open to all.

University of the Bosphorus

Young faculty confronts tensions

by Godfrey Goodwin

The tourist on the Bosphorus ferryboat cannot be impressed by the fortress of Rumeli Hisar. He may glimpse the large college buildings among the trees beside it which also have a place in Turkish history.

The founding of Robert College in 1863 was a result of nineteenth-century missionary zeal and the business acumen of Christopher Robert. A board of trustees appointed Dr Cyrus Hamlin its first president and he bought 170 acres on the hill-top above Bebek which surrounded the library of Ahmet Vefik Pascha.

Hamlin also possessed exceptional qualities and had advanced educational views. First and foremost, he did not see education simply as an escape through intensive reading or abstract research in a laboratory. His teaching had a practical bias, especially through carpentry. During the Crimean War he had set up a bakery which supplied the British army. He also washed the foot uniforms of the wounded, which no one would touch, by spinning them in a series of large barrels full of soda. Each primitive machine left little for the washer-women to do.

He was the architect and

builder of an imposing educational centre, Hamlin Hall, stones for which were quarried from its foundations to create a cistern which never runs dry.

Dr Hamlin demanded more than his trustees could support and he was replaced by his son-in-law, Dr Haskins, a cheerful, remarkable personality. Under his direction the college was a haven for the Christian minorities while establishing relationships with the Ottoman provinces. The curriculum was liberal and the language of instruction, English. An undergraduate engineering department grew from Hamlin's foundation while secularization was enforced under the republic.

In 1911, Huseyn Fehmi was the first Muslim Turk to graduate and he eventually became vice-president of the college. After the First World War the number of Turkish students increased. In 1938, after three years of preparation, a separate yulkesk okul or university college was constituted by Duncan S. Ballantine, college president, and Howard P. Hall, dean of engineering. Influenced by the programme of the Massachusetts Institute of Technology, the students of engineering and the newly formed departments of business studies and sciences were required to devote a third of their time to humane subjects.

A bilingual, bicultural and humanistic course under the foreign faculty, including Dr Lewis introduced them to the philosophy, history and arts of Islam and the West. Considerable grants were made by American foundations to finance the new period. By 1968, the centennial year, the student body was almost completely Turkish and the expansion of an advanced technological college had used up the considerable capital reserves in the United States—the time had come to turn to the Turkish government.

The new policy was sustained by a highly structured language division with fully equipped laboratories. There the graduates of Turkish national high schools learnt sufficient English in one year to be able to follow the degree course. The success of Dr Sheldon Wise's department enabled the college to recruit the sons and daughters of people in humble circumstances from the hinterlands.

These changes were reflected in the emergence of a talented folklore and dance group alongside the long-established cultural societies which were a vital contribution to college life. The changes divided the university from the high school, which continued to occupy two halls and share canteen, library and other campus facilities, not least the football pitch.

The new university departments attracted a distinguished Turkish and

leadership of Dr Geoffrey Fahri Iz and Dr Cevat Arif. The library enjoyed a large grant for modern equipment. The installation of a computer was the climax of this new period.

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United Arab Emirates University

Turning women into scholars

by Ann Fyfe

In setting up an Islamic university from scratch in a short time, the United Arab Emirates has thrown into relief many of the problems of a conservative society's attitude to the education of Muslim women, and of tailoring the flow of graduates to a developing country's many and pressing manpower requirements.

Equally the UAE university faces problems peculiar to itself notably attracting students whose wealthy families can send them abroad, but at the same time it is financially able to recruit staff, buy materials and build premises at a speed not possible elsewhere in the developing world.

Opposition from the older generation in this conservative community is being countered with weapons from the Koran and the Hadith (dicta) of the Prophet. The Prophet exhorts man to seek knowledge: Islam synthesized the absolute unity of God and the laws of science operating in nature in medieval times in the persons of Shafai, al-Ghazali, Ibn Rushd (Averroes), Ibn Sina (Avicenna) and others—all scientists of lasting world renown and at the same time great men of Islam.

In turning women into scholars, however, the UAE

faces a problem more deeply rooted than in the more advanced Islamic countries in the United States. The exclusion of women was practised with a rigour second only to Saudi Arabia's. Only girls entering their teens, and not all of them, are pursuing their studies to secondary level but those who are now in the secondary schools have to some extent already fought their parental battles and won, as Ahmad Bu Hussein, university secretary-general, points out.

The secretary-general has two ways of attacking issues such as these—minimising or stepping over objections on the one hand and quoting the example of the time of the Prophet on the other.

Thus, in the specific case of women graduates, Mr Bu Hussein points to the prominent female traders and scholars of the time of the Prophet, notably Khadejah, while at the same time using the handful of UAE women who are already graduates to demonstrate that degeneracy is not the inevitable result.

That is not to say that the older generation views with equanimity the prospect of the type of campus behaviour they may have read about in the context of European universities. The secretary has publicly voiced his unqualified support for the concept of coeducation but is the first to admit that its implementation is out of the question in the UAE until such time as the community

may grow to accept it. The British practice of allowing the undergraduates an ungendered choice in what he reads is also regarded as inappropriate in the case of the UAE. Most of the country's administrators, civil servants, teachers, engineers and doctors are foreign expatriates. Accordingly, courses available at al-Ain will be tailored strictly to the country's manpower needs as stated by a planning committee drawn from various ministries.

The four faculties opening in October are those of education, arts, science and commerce. Thereafter the pressing need is for a faculty of medicine. A college of petroleum and mineral technology is planned in the medium term. Advice on academic planning and other matters has been sought from Sir Cross College, Oxford.

What incentive has the son of a wealthy merchant family to study for a degree given that he will one day assume control of his family's commercial empire? The argument used within the secretariat is again the Prophet's exhortation to pursue learning coupled with his dictum that a man's standing in this world is to 4,000 or so schoolchildren in their final year at secondary school. A percentage of places will also be open to nationals of other Arab and Islamic countries. Bachelor degree courses will last four years and facilities for higher degrees will be

some are studying at their families' expense but many are helped by the Ministry of Education. The Ministry intends to continue supplying those grants on condition that the specialization the student is studying is not available at al-Ain. This does not prevent those who wish to study abroad at their own expense from doing so.

All graduates will be guaranteed a job by the Government. This undertaking is not as surprising as it appears: the UAE is unique among developing countries only in that it can well afford to give such a guarantee.

Since the ever-increasing size of the Civil Service has already given rise to such protests that recruitment has been frozen, the unemployment of all national graduates must imply that foreigners occupying those posts will start to be displaced in four years' time. That is, however, not being spelled out in too much detail at this juncture. Similarly, the commitment to employ would appear to include all undergraduates.

This October's intake of undergraduates will number about 300 selected from the 4,000 or so schoolchildren in their final year at secondary school. A percentage of places will also be open to nationals of other Arab and Islamic countries. Bachelor degree courses will last four years and facilities for higher degrees will be

introduced in three or four years' time. All students will receive a maintenance grant with a cash test, as indeed all UAE school children already receive cash benefits.

Recruiting staff is proving difficult not because of any dearth of applicants but because the secretariat has already been inundated with applications. A committee of four notable Arab scholars from universities in the United States, Jordan, Iraq and Egypt has been appointed to process them. A second committee has recently left to buy books for al-Ain library.

A pet project of the Head of State, the university of the UAE enjoys a budget this year of 67m dirhams (£10m). The shahs will also be called upon to lend their prestige to the project by sending their offspring to al-Ain institution—most sons and daughters of shahs now go on to secondary education at least.

The background to the UAE Islamic university is thus an unusual mixture of haste, desperate need, abundant finance, deeply-rooted conservatism and nationalistic pride. Its promoters have adopted the tactics of turning a blind eye to such problems as the lack of an informed or synthetic interpretation of Islam on the one hand and researching encouragements from the Koran and the life and sayings of the Prophet on the other.



LETTERS TO THE EDITOR

lends his support to the process by churches, religious bodies and others of a resolution at the Addicks Bank's Annual General Meeting that no further loans be made to South Africa by the bank. Unhappily, as aptly said but I am puzzled that he and other members of his Church would devote so much of their wealth, time and effort to condemning the Government of South Africa while remaining strongly sympathetic for the most part, to the center-wrongs of other-governments.

What of the oppressed majorities the Soviet Union and her satellites? In China and here? In Vietnam, Laos and Cambodia? In Africa? In Mexico? If in the majority of the reports from those unfortunate countries are true, the sufferings of their citizens are far more and more widespread than those of the non-white races in South Africa. The Dean noughts in their comfort?

Some have argued that the campaign against South Africa is justified on the grounds that her government shows signs of respectibility to world opinion, that her governments operate under rigid controls over the information which their citizens are allowed to receive that they can be expected to cock a snook at international pressure. But is not that argument for doing one's utmost to assure that other citizens may be free, at the very least, the same freedoms enjoyed by the people of South Africa?

Christ's injunction to His disciples was not "Go ye and teach at the Africaners" but "Go and teach all nations".

Yours faithfully,
CHRISTOPHER MONCKTON,
Westgate,
Wetherby,
West Yorkshire.
March 31.

THE TIMES

BUSINESS NEWS

كتاب من الفصل

A code on the delicate issue of discipline, page 18

A tax for all seasons, page 17

British AGR system back in favour for next stage of nuclear power stations

By Roger Vielvo

British-designed advanced gas cooled reactors (AGRs), once discredited because of technical problems and the high cost of construction, are now being favoured to fuel the next generation of nuclear power stations.

Government and the electricity authorities are looking more favourably on the AGR system after the first two commercial stations at Hinkley in Somerset and Hunterston in Strathclyde have been working successfully for more than a year and are producing the cheapest electricity in Britain.

A final decision on which type of reactor should be chosen as the first commercial order for the National Nuclear Corporation will be taken by Mr Benn, the Secretary of State for Energy, in the summer and should the desperate middle into which British nuclear policy has slipped.

Mr Benn will take the decision after receiving a report from the Nuclear Inspectorate on safety aspects of the American-designed pressurized water reactor (PWR) and the British AGR and the steam generating heavy-water reactor (SGHWR) and the American PWRs. Both reports are expected to be on his desk by June.

The important reassessment which was completed this month, was commissioned by the Government last autumn after Sir John Hill, chairman of the Atomic Energy Authority, had advised Mr Benn against further development of the SGHWR, chosen in 1974 for commercial development by the Nuclear Power Corporation.

Sir John blamed rising costs



Mr. Benn's final decision this summer.

associated with launching a new type of reactor that could not be recouped from a nuclear building programme of only 4,000 MW—two stations, one at Sizewell in Suffolk, and the other at Torness, near Inverness. He was also concerned about poor export prospects for the system.

During the 1974 debate on the type of reactor Britain should adopt for the next generation of nuclear power stations, the AGR was dismissed as an early stage. Then the reactors were several years behind construction schedules, and overran their costs estimates by several hundred million pounds and had still not produced a single unit of electricity.

Since the Hinkley Point B station in Somerset has been commissioned the attitude of the Central Electricity Gener-

ating Board has changed considerably. The system has worked well. Problems with insulation have not materialized and an AGR design adapted to ensure access to the reactor to make repairs would probably not be opposed by the generating board.

By the time Mr Benn takes his decision, Britain's ailing generation industry should be on the way to rationalization in one form or another. However, a week of indecision by the two ministries deeply concerned with mapping the future for the industry, has raised serious doubts among executives in the troubled supply companies.

With Mr Benn and Mr Varley, the Secretary of State for Industry, both supporting the advanced ordering of the second stage of the confirmed power station at Torness in Yorkshire, it looked as though a decision on principle could be announced before the Easter holiday.

But apparently Mr Benn and Mr Varley were unable to find time for an important meeting on the consultations they have had with outside bodies on the problems of the industry. And with Mr Benn in Washington for the first part of this week there is little prospect of the meeting and therefore any public announcement being made this side of the holiday.

C. A. Parsons, the Newcastle-based turbine manufacturer, which has been delaying refunding in the hope of a favourable decision on Torness, is now growing impatient.

However, the problems of the power generation industry have evidently attracted the attention of the Prime Minister who is also in favour of an early decision.

Reserves in March set for all-time peak

By Caroline Atkinson

Economics Staff

Figures to be published today are expected to show Britain's official reserves at their highest ever level. The previous peak was in November, 1974, when they reached \$7,824m. A month ago the reserves stood at \$7,787m (\$4,546m).

The expected rise in March—the third month running—reflects the considerable intervention by the Bank of England in the foreign exchange markets during the month. This was needed to hold down the value of the pound against other currencies in line with the Government's policy of preserving the price competitiveness of British goods.

Despite strong demand for sterling throughout most of March its exchange rate against the dollar was less than a cent higher at the end of the month—at \$1.72—than at the beginning.

Dealers estimate that the Bank may have bought over \$1,000m of foreign currency during March, but not all of this will show up in today's figures. This is because the big inflow of funds in the post-Budget period in January, and to a lesser extent, Thursday of last week, was not valued until Friday. It will, therefore, be included in the April total.

Further drawing on the \$1,500m Eurodollar loan arranged by the Government earlier this year, probably added \$750m to the reserves in March after a \$250m drawing in February. This would leave \$500m to be drawn in six months' time, as agreed when the loan was set up.

There will, however, have been no boost to the March reserves from the IMF loan. The next instalment cannot be drawn until after the IMF team of economists have visited Britain to monitor the progress of the Government's economic policy. And that visit will probably take place soon after Easter.

Official borrowing under the exchange cover scheme, which helped to bolster the reserves last year, has now been brought virtually to a standstill.

Mr Shore's appeal decisions disappoint retailers

Hypermarket hopes fading

By Patricia Tiedall

Hopes that government planners were becoming more sympathetic to hypermarkets and superstore schemes have been dashed by a series of appeal decisions made by Mr Shore, Secretary of State for the Environment.

Last week, Tesco, one of the biggest of the supermarket groups, was told that an appeal against a local authority refusal of a 90,000 sq ft store near Newton Abbot in Devon had been rejected by Mr Shore.

In March, an appeal by Sainsbury for a 53,800 sq ft store at Chichester was also refused after a local public inquiry. In both these cases, the Secretary of State agreed with the view of the inquiry inspectors.

On the Tesco application it was felt that although the proposed new store would not seriously affect trade in Newton Abbot, smaller centres at Ashburton and Bovey-Tracey were still able to withstand the effects of lost trade—in particular, Bovey-Tracey which was closest to the appeal site.

Mr Shore considered that the impact of the proposed development would be so severe as to have "serious social, economic, financial and planning consequences" on these two small towns, which are in a predominantly rural area.

At Chichester, the Sainsbury appeal was refused on grounds of traffic generation and environmental considerations, as described by the inquiry inspectors.

But in a third refusal, concerning a proposed 65,000 sq ft Co-op store at Sandford near Oxford, Mr Shore overruled the local inquiry inspectors. In a decision announced on February 24 he dismissed the Co-op's appeal on the grounds that the proposed site was in an interim green belt area and that the shopping needs of the area were still being met.

The Department of the Environment for superstores are considered as local level only. The supermarket groups complain that there is widespread confusion among local government planners about superstores in the absence of consistent government research into retailing needs.

hopeful of being allowed to go ahead.

Last year, the supermarket companies felt that there had been a change of heart in government attitudes when the Department of the Environment set out a revised policy note dealing with large stores. They are bitterly disappointed at the latest decisions.

Because of the costs involved, which, according to Mr Leslie, Porter, chairman of Tesco, may amount to "tens of thousands of pounds" and sometimes as much as the cost of the land itself, only a minority of planning applications are taken to an appeal.

The department is informed only about the very largest stores (revised from 50,000 sq ft of gross trading area to 100,000 sq ft and above in the draft policy note). Most applications for superstores are considered at local level only.

The supermarket groups complain that there is widespread confusion among local government planners about superstores in the absence of consistent government research into retailing needs.

American TV critics silenced by profits

America's three top television networks—CBS, NBC and ABC—are often criticized for their financial excesses, and yet they continually stun their critics by making handsome profits.

As you know, says Mr Karl Eller, "television is growing. Television is continually getting its share of the advertising market."

Mr Eller is president of Combined Communications Incorporated, which last week spent about \$100m (£60m) to buy a local television station. Everybody in the American television business would agree with his comments, and his record of deals causes little surprise among industry experts.

To suggest that American television companies are extravagant when spending on programmes, performers or stations, is merely to underestimate the profits of this bewildering business.

Many people considered ABC to have gone quite crazy last year when they offered Miss Barbara Walters a five-year \$5m contract to become one of two regular anchors on its evening news programme.

Miss Walters is elegant and competent, but few people considered her—or anyone else—worth \$1m a year to read the news.

But ABC knew what it was doing. So far, her ratings have risen about two points, an additional \$2m a year in advertising revenue.

ABC is certainly not the only big spender around, although it looked that way when it paid out \$25m last year for the United States exclusive rights to broadcast the Olympic Games.

NBC recently agreed to spend about \$85m for the American exclusive rights for the Olympics in Moscow in 1980.

Some people take the view that NBC has really gone mad in paying such a sum, but then the company was widely criticised last year when it announced that it was paying \$5m for the exclusive right to show the ancient film *Gone with the Wind*. The company laughed all the way to the bank over this particular deal. It charged \$250,000 per minute to advertisers and made a profit of about \$2.5m.

The big television companies are spending so heavily that the film industry is experiencing a revolution. Films with top stars such as Elizabeth Taylor are being specially made for them and distributed to cinemas only after they have been shown on television.

Recent experiments with serials, such as *Rich Man, Poor Man*, have been so successful that tens of millions of dollars are being laid out by the companies to make more of them. The scale of operations in the United States is so great that golden opportunities may well be in the offing for British producers. Programmes like *Upstairs, Downstairs* and *The Pallisers* have been watched carefully by the big network producers here, and their success on the small public broadcasting system might lead to sales of other British programmes to the big companies.

A few could even have a significant effect on Britain's balance of payments given the huge sums of cash now involved. Frank Vogl

Exxon sees shortfall in other fuels

By Our Energy Correspondent

Estimates of the contribution that nuclear power will make towards meeting world demand for power into the 1990s have been downgraded in the latest *World Energy Outlook*, prepared by the Exxon Corporation.

The report says that nuclear will supply 10 per cent of the world's synthetic oil from coal and gas, and solar, hydro, power, and geothermal energy—were expected to double in volume by 1990, but would still account for only 52 per cent of energy supply, against 47 per cent of consumption at present.

Exxon says this projection is lower than the 1973 pre-crisis outlook despite the new environment of higher prices and increased concern about the security of energy supplies.

The revised forecasts reflect delays in taking important policy decisions by governments and a more experienced view of how fast resources can be found and developed, the company says.

Conservation is key to Carter energy policy

From Our US Economics Correspondent

Washington, April 3

President Carter aims to bring about a considerable reduction in United States dependence on foreign oil, while cutting in half the annual rate of increase of total American energy consumption.

The new energy plan, announced on April 20, will include a stiff tax on large cars, a levy on petrol and proposals for tax relief for people on low incomes to offset energy rises.

It will be "tough, but it will be sensible as well. Americans are going to have to live in well-insulated homes and use fuel-efficient automobiles."

Dr James Schlesinger, the administration's top energy policy adviser, today outlined the main aims of the plan. The United States currently imports about 10 million barrels of oil a day, uses about 19 million barrels daily, and within a few years it is hoped that imports will be down to about one third.

He said: "We are running out of oil and gas in this country and unless we start taking conservation seriously, that we will run flat out of energy sources in 20 or 25 years."

Dr Schlesinger stated in a television interview that some increase in overall energy consumption must be expected in coming years, but that it is hoped that oil consumption will be reduced to 15 to 16 million barrels daily by 1985.

Savings of one and a half million barrels daily would be possible in transportation by 1985, with a similar volume of savings from widening conservation plans and economies.

He said United States energy consumption was rising by about 4 per cent a year, resulting in a doubling of energy needs every 17 years. And it is hoped that energy consumption increases can be held to under 2 per cent a year to ensure that demand doubles only every 40 years.

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Mini replacement 'essential', dealers say

By Clifford Webb

Members of Leyland's distributor-dealer network have insisted that a replacement for the present Mini was "an essential" for Leyland to maintain its traditional market leadership in Britain.

If the £200m new Mini project is axed during the present reappraisal of all Leyland operations, they predict widespread dealer desertions, most of which will be snapped up by competitors.

Last Tuesday Leyland announced it had frozen all capital expenditure on projects like the new Mini for at least three months until the internal reappraisal had been completed and pronounced on by the National Enterprise Board and Mr Varley, Secretary of State for Industry.

The present 18-year-old model is still capable of taking 6 to 7 per cent of the United Kingdom market when it is freely available—a position dealers do not enjoy for some time because of strikes.

Despite the month-long tool-makers' dispute which dented production of most Leyland models the Mini still managed to outsell the new Ford Fiesta last month.

Mr Peter Green, chairman of P. J. Evans, Leyland's biggest distributors in the Midlands, said: "We can still sell all the Minis we can get. We must have something in the future to enable us to continue to meet our strong demand."

Dealers insist that the Mini underpins the whole Leyland range by bringing in first-time buyers who frequently stay loyal to Leyland when they progress to larger cars. It also enables two and three-car families to purchase and service their cars through a single dealership.

Dealers are also anxious to cater for the significant "Buy British" element.

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Dealers are also anxious to cater for the significant "Buy British" element.

White-collar men may resort to 'moonlighting'

By Our Financial Staff

The proposed new Mini has been criticised because, like the present model, it will be smaller than the Fiesta and the Volkswagen Polo. But its supporters believe this will be its strength.

They say that Ford in justifying its decision to build a small car, likened its absence from the market to the absence of a small car from the market.

Some Leyland dealers say Ford stopped at 61 while the Mini is a true six. Escorts ahead: Forde at Halewood, Liverpool, yesterday announced that, twice in the last three weeks the daily output of Escorts was above 1,000 and the average jumped from 850 to 900. A spokesman said the improvement was a tonic.

And 4,000 hourly-paid workers were on general Sunday overtime yesterday for the first time since November, producing 400 cars worth just over £800,000. There was Sunday overtime a week ago but that was in lieu of an Easter shift.

White-collar workers could soon be resorting to services instead of paying cash, according to Mr Len Peach, director of personnel and corporate affairs for IBM (UK).

He believes that unless money is made quickly to restore pay differentials, many managers will be pressing for more perks, and "moonlighting".

Taxation and inflation could force employers to concede perks on a scale denied in Israel—cars, interest-free or low-interest loans, clothing allowance, marriage and birth gifts, and rental of company-owned assets.

On borrowing, Mr Peach, in an article in *Personnel Management* magazine, told of an Israeli dentist who offered free treatment to an accountant in exchange for doing his books.

Barclays to meet Swapo

By Our Financial Staff

Barclays Bank's senior management in London has agreed to a request to meet representatives of Swapo, the South West Africa People's Organisation, to discuss its involvement in Southern Africa.

But the bank has denied any knowledge of reports that a decision has been taken by its 64 per cent-owned South African National Bank, to sell the controversial £55m holding of defence bonds bought last year.

Although such matters are left to the judgment of the subsidiary itself, it is inconceivable that a ruling on so sensitive an issue could have been made without notification to London.

Barclays has, however, already made known its unhappiness about the bond purchase.

Wednesday Barclays will hold a board meeting and is expected to meet a hostile barrage of questions over its involvement in Southern Africa.

Capital Radio, largest in terms of listeners of Britain's 19 independent radio companies, has firmly turned the corner into profitability, Sir Richard Attenborough, Capital's chairman, reports today that the company has enjoyed a trading profit of £768,000 for the year ending September 30 compared with a trading loss of £182,000 in the previous year.

Increased advertising revenue last year raised Capital's turnover by nearly 20 per cent to £1.5m. During the calendar year 1976, the network as a whole earned £14.5m, compared with £8.5m the year before. The first two months of 1977, with revenue standing at around £2.5m, are showing increases of around 50 per cent on last year.

In the company's current financial year Capital's liability for independent Broadcasting Authority primary rental, the fee to independent radio news and royalties will account for £1.4m of total expenditure, of which 50 per cent will be represented by royalty payments on music.

On other pages

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Lending rate 9½ pc

The Bank of England's minimum lending rate is set at 9½ per cent on Thursday. Friday's Treasury Bill rate was consistent with M.L.R. at this level and the market-related formula for setting M.L.R. has consequently been reactivated.

The following are the results of Friday's Treasury Bill Tender:

Applied: £1,187m
Bids at: 9.57 1/2%
Week: 297.665
Average: 9.7543%
West: 9.7500%
Allotted: £500m
Received: 4%
Unsold: 27%
Unsold: £0.5815%
Repaid: £500m

THE SCOTTISH EASTERN INVESTMENT TRUST LIMITED

The Fifty-second Annual General Meeting of The Scottish Eastern Investment Trust Limited will be held on Monday 25th April 1977 at the offices of the Company, 29 Charlotte Square, Edinburgh, Mr. A. Logan McChace (the Chairman) presiding.

The following are extracts from the Directors' Report for the year to 31st January 1977—

DIRECTORS — Mr. W. J. R. Govett was elected to the board on 7th February 1977. Mr. Govett is Chairman of the Investment Advisory firm of John Govett & Company Limited, in London.

REVENUE — The increase in Total Revenue from £3,325,054 to £3,325,307 is due mainly to higher dividends from the Trust's equity holdings and currency gains on overseas income. After charging interest on borrowed money, management expenses and taxation, the revenue available for distribution amounts to £2,033,964 compared with £1,713,268 previously.

DIVIDEND — The Directors recommend a final dividend of 2.50p per Ordinary Share which, with the increased interim dividend, makes 3.50p for the year, compared with 3.00p last year. After payment of the dividend the revenue carried forward is increased by £100,000.

VALUATION — At the year-end, the total net assets attributable to Ordinary Shares was £75,012,408 compared with £78,217,775 last year. Based on these figures, the Net Asset Value of an Ordinary Share was 142p compared with 149p a year ago.

The Net Asset Value represents as accurately as possible the amount of assets less liabilities at work per share on the Balance Sheet date. It should not be construed as the "break up value" or amount realisable on liquidation.

THE YEAR IN BRIEF

	1977	1976
Total Revenue	£3,325,307	£3,325,054
Earned per Ordinary Share	3.50p	3.10p
Paid per Ordinary Share	3.50p	3.00p
Total Net Assets attributable to Ordinary Shares	£75,012,408	£78,217,775
Net Asset value of each Ordinary Share		
Prior charges at par	142p	149p
Prior charges at market value	149p	155p
Number of Ordinary Shareholders	9,900	10,200

Community ready to unveil steel rationalization plan

By Ronald Emiler

Viscount Eleanore Davidson, the EEC Commissioner responsible for industrial policy, will this week present to the Commission his proposals for the rationalization of Europe's steel industry.

The plan, which has been given broad approval by the Community heads of government at last month's Rome summit, is intended to reinforce the EEC's anti-crisis measures introduced at the beginning of the year.

This plan has three main elements, the details of which were defined at a series of meetings with producers and buyers in Brussels last week.

First, with steelmakers in the Community working at about 65 per cent of capacity, there will be much play on making available capital from the European Coal and Steel Community budget and the EEC's social and regional funds for the running down of old capacity.

It seems certain that Belgium and West Germany will be the main targets of the restructuring plan.

There has been much controversy on pricing, the second element of the plan. Until late last week it appeared likely that Viscount Davidson would commend a system of mandatory minimum prices to the Commission.

But after behind-the-scenes pressure last week, it looks as though the Commissioner will

merely be "recommending a system of 'consultative' minimum prices."

They would be indicated by the Commission to producers with forecasts of output and sought to be achieved by a formal price minima system, it is hoped that it will be possible to prevent undercutting. Most lines, including reinforcing bars, are expected to be included in the system of indicated minimum prices.

The third prong of the Davidson plan will be a system of import licensing from non-EEC members. It is envisaged that any producer with a contract from an EEC country will automatically be given an import licence.

There is no question of import controls which would be contrary to GATT obligations and also extremely sensitive as far as the Americans and Japanese are concerned.

What the automatic licensing system will mean, however, is that governments will have an immediate picture of which producers are being imported, by whom and at what price.

This will not only help identify suspected sources of undue speculation, but will also mean that there is evidence of dumping, if it exists, available before the steel concerned is delivered.

It would enable governments to ask for action from the Commission before the damage is done.

OECD sees hard road ahead for Italy's economy

From Peter Norman

Rome, April 3

Although Italy cannot avoid a series of "drastic" stabilization policies in its present economic situation, the Organisation for Economic Co-operation and Development believes that much of the public discussion about the country's economy has tended recently to be too pessimistic.

In its latest report on the Italian economy, the OECD says tough measures are needed in the short term to deal with the

'Irresponsible' wages inflation blamed for UK's economic plight

Britain's economy turned entirely on the future of incomes policy and successful curbing of the upward movement of wages, according to Lord Kahn, the Cambridge economist, in the April edition of *Lloyds Bank Review*.

The state of the economy and the "massive unemployment" were because of output and income having to be sufficiently low to keep imports down to a level at which the current account balance of payments could be financed by the facilities made available by the International Monetary Fund and central banks, he said.

The imposed conditions had to be accepted in consideration of accepting their help.

But the result of "the utterly irresponsible wage inflation" from which the economy suffered so severely until about two years ago, Lord Kahn added.

Professor John Letiche, of the University of California, writing in the review, says that in the long run the drastic rise in oil prices must further influence the trend towards more efficient energy produc-

tion and consumption patterns. "The OECD (Organization for Economic Cooperation and Development) countries have failed to achieve a workable, comprehensive energy programme, and the need for it is still vital", he adds.

But the future prospects for the non-oil producing, less developed, countries do not appear favourable.

The "best available evidence" of the World Bank suggests that the real prices (when compared with other prices) of primary products in 1980, as well as in 1985, will be lower than the 1967-1969 level.

Less developed countries are likely to be faced with a rise in prices of their imports of manufactured goods and capital equipment, he says.

Professor John Letiche, of Cambridge, writing in the review, says a stationary population in the United Kingdom would be of more benefit to the economy than a rising one.

It would, for instance, make the future balance of payments problem easier because imports would be reduced and the need to increase exports less important.



Mr Willy de Clerck, Belgian finance minister, who announced at the weekend that Sweden, Denmark and Norway will devalue today against German, Dutch, Belgian and Luxembourg currencies inside the "snake".

While the timing of Friday's decision to devalue the Scandinavian currencies inside the joint European float came as a surprise, the move can be seen as a shrewd preemptive stroke by the monetary authorities of the "snake".

In fundamental economic terms there has been a growing divergence in performance

between Denmark, Norway and Sweden and the more southerly members of the European joint float—in particular West Germany.

The three countries which devalued have large payments deficits on current account, while Germany is still running a big surplus, even though on latest estimates it should be halved to between DM5,000m and DM4,000m this year.

Domestic inflation in the Scandinavian countries is running at around 9 per cent or 10 per cent per annum, or twice Germany's present annual rate of inflation.

By contrast, there are several thousand such firms in the United States, whose total sales run into "billions of dollars". This low level of activity in Britain and Germany has significant long-term implications, the report says. The two countries are neglecting three factors:

First, an important channel for export of technological innovation. Secondly, the development of a new generation of modern industries which are needed to provide future employment and exports. Thirdly, the value of new technology-based firms in maintaining a competitive environment in the face of the increasing power of big corporations.

The chances of a person being killed in a gas explosion in Britain are the same as those of being killed by the bite of a venomous animal, and comparable with that of being killed by lightning, according to Mr. Cedric Brown, director of engineering, East Midlands Gas Board.

Speaking at a gas safety exhibition in Leicester, Mr Brown said that over the past five years an average of 12 people died each year in gas explosions in Britain. This was to be compared with the total number of deaths from accidents of all kinds—about 18,000 each year.

While the local authorities offer a warm welcome to developers, the local community may not yet have realised that petrochemical plants can be somewhat noxious neighbours.

Environmental protection could pose problems: despite the concentration of industry there already, the Firth remains an attractive area and it also contains two important bird sanctuaries, whose inhabitants could easily fall prey to pollution.

Certainly if they are going to have another Teesside at Cromarty, the local people better hope that they don't reproduce the small as well.

Nevertheless, the shortage of suitable sites for major develop-

ment puts Cromarty strongly in the running. Mr E. D. Loughney, managing director of Cromarty Petroleum, argues that between the North Sea and the Ruhr "there is only one empty halfway house en route: the Cromarty Firth".

The remoteness of the area still presents transport and communications difficulties, although much is being done.

The A9 road from Perth up through the Highlands is being completely rebuilt, at a cost of £10m, and British Rail is spending several million pounds on improvements to the rail route from Perth to Inverness.

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Consultants urge tax cuts to spur technology

By Kenneth Owen

A report published today says the British and West German governments should change their taxation systems—and in particular should cut income taxes in order to encourage the creation and growth of technology-based companies.

Both governments should also channel more of their research and development spending into such concerns. The report was prepared by the Arthur D. Little Consultancy for the Anglo-German Foundation for the Study of Industrial Society.

The number of new technology-based firms is low in both countries, the report indicates, and their performance in general is not impressive when compared to the United States. Notable exceptions include Rascal Electronics in Britain, and Nixdorf Computers in Germany.

Britain has about 200 new technology-based firms, Germany has fewer, and in each country their sales total about £200m. But four companies account for over half the United Kingdom figure, while Nixdorf, represents almost two thirds of the German total.

By contrast, there are several thousand such firms in the United States, whose total sales run into "billions of dollars". This low level of activity in Britain and Germany has significant long-term implications, the report says. The two countries are neglecting three factors:

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LETTERS TO THE EDITOR

Brussels' proposals on lorry weight limits will put up transport costs

From Mr H. R. Featherstone

Sir, In his outcry against any increase in goods vehicle weights your correspondent John W. Parton (March 31) displays a lamentable lack of knowledge both about goods vehicles and, somewhat surprisingly, about the River Thames, whose society he represents.

Brussels' new proposals are vastly different from those put forward in 1968-69. In order to meet British objections the gross weight has been reduced to 40 tonnes and the axle weight—and this is what counts in terms of road wear—to the existing 10 ton British level. In addition there will be tight control of smoke and noise.

Mr Parton's introduction of a note of concern for various Thames bridges is a red herring. Of the eight bridges mentioned over half are already subject to a weight restriction which prohibits their use by many present vehicles let alone the 40 tonner.

Like so many anti-road trans-

port campaigners, Mr Parton throws in the in-vogue catch phrases "integrated transport policy" and "co-ordinated framework", when what he really means is transfer of traffic to rail or water regardless of the economic consequences.

The plain truth is that trade and industry already has an extremely integrated approach to transport using a mix of modes to suit the job in hand.

The Chancellor's double attack on road transport in his Budget will put up transport costs—and that means the cost of everything we consume or export—by £150m per annum.

Allowing increased vehicle weights would save a third of that amount, reduce the number of vehicles required to move Britain's goods, and cut road wear per ton of goods moved significantly.

Yours faithfully,
H. R. FEATHERSTONE,
Freight General,
Freight Transport Association,
Hermes House,
St John's Road,
Tunbridge Wells,
Kent TN4 9UZ.
April 1.

The independent advisory role of ACAS

From Mr J. E. Mortimer

Sir, May I correct two inaccuracies in Mr T. Mercer's letter of March 29?

Mr Mercer sought information from ACAS on trade union recognition and union membership agreements. This information was given.

ACAS did not advise "join the union or go out of business". When parties to a dispute seek help from ACAS part of our role is to assess the situation and to outline to both sides the views of the other side. This is very different from advising on a particular course of action.

Secondly, ACAS is not a government department but an independent organization created to help employers and unions in their industrial relations difficulties. ACAS is controlled by a council which operates impartially and independently of government.

Yours sincerely,
J. E. MORTIMER,
Advisory, Conciliation and Arbitration Service,
Cleland House,
Page Street,
London SW1P 4ND.
March 31.

The Sudanese Gezira cotton scheme

From Dr Tony Barnett

Sir, I refer to the letter from Mr John Jefferson concerning the Gezira scheme which appeared in your issue of March 29.

The establishment of the scheme had far more to do with the interests of Lancashire than of the Sudanese. Although the Anglo-Egyptian condominium government was concerned to make the recently conquered Sudan self-financing, it was not until 1912 that any progress was made towards that goal. The impetus then came from the British Cotton Growers Association.

This association of textile manufacturers was extremely concerned at the failure of the American and Egyptian cotton crops in 1909 and the resulting high price of long staple cotton. In addition, some Liverpool cotton merchants were hoarding stocks, thus adding to the manufacturers' problem.

In seeking compensation in manufacturers from Europe, the United States and the Far East, led the BCGA to influence a reluctant British Government to finance the Sennar Dam and associated canals. This influence was effectively exerted by such men as Mr. Lord, Mr. Bonar Law and Mr. R. E. Deniss.

Their speeches, which may be referred to in *Hamard*, Vol 50, 1913, emphasized the needs of Britain, and of Lancashire in

particular; they did not mention the needs of the Sudanese.

Mr Jefferson appears to note that the Gezira scheme was not a "conspicuous agricultural success" in the 1930s. But it is interesting to make the following observations in connection with his remarks about the "economic gain". The majority of Gezira tenants certainly saw little or no economic gain until the early 1950s. Provision of social, health and educational facilities prior to this time was almost non-existent. And, of course, it might be asked how could such services have been financed without profits?

It ought to be noted, though, that during the years of crisis from 1929 to 1939, the tenants' income averaged around £13.5 per annum, with no income whatsoever in the years 1930, 1931 and 1933. During the same period, with the exception of 1929 and 1937, the Anglo-Egyptian Government made considerable losses, as high as £287,087, and not lower than £116,089.

In contrast, the Sudan Plantation Syndicate made profits averaging around £200,000 throughout this period, except in 1931 when a small loss was made. These figures seem to indicate that the government and the tenants did rather badly from a series of poor years, the syndicate survived quite adequately.

Was the scheme a "conspicuous success" because of the

harmonious tripartite relationship between the tenants, the managing Sudan Plantations Syndicate and the Sudan Government? In financial terms, it has been a success from the viewpoint of the post-independence government. In the pre-independence period, the "economic gain" has been over-emphasized. Until 1947 no one could have known how the majority of tenants felt about the scheme as they had no representation, except as individuals.

The management was extremely authoritarian. Attempts by the Sudan Government to introduce more participation into the operation of the scheme were obstructed by the syndicate. This was a contributory factor to the termination of the syndicate's concession in 1950.

A major factor was the long standing objections by Sudanese nationalists to the authoritarian manner in which the scheme was run. Quite clearly, none of these issues is altogether clear cut. But my general impression, based on extensive research, is that the observations by Mr John Garner in the *Sudan Supplement* of February 26 are accurate. This was a contribution from those of Mr Jefferson.

Yours faithfully,
TONY BARNETT,
School of Development Studies,
University of East Anglia,
Norwich NR4 7TJ.
March 30.

Kleinwort, Benson, Lonsdale Limited

"Consolidation and Progress"

A summary of the Statements by the Chairman of Kleinwort, Benson, Lonsdale Limited, Sir Cyril Kleinwort, and the Chairman of Kleinwort, Benson Limited, Mr. Robert Henderson, in the 1976 Report and Accounts. It is encouraging to be able to report that the profits of the Group have again increased after yet another difficult year, and on behalf of shareholders I should like to congratulate all employees of the Group on this achievement. I say this with particular feeling as initiative and inventiveness are the necessary qualities required to attain these results, given the background of discouraging economic conditions internationally.

The Directors recommend the declaration of a final ordinary dividend of 2.17889p per share, which, with the interim dividend of 1.51p per share paid in November, makes a total of 3.68889p per share for the year compared with 3.46p per share for 1975.

CYRIL H. KLEINWORT

Kleinwort, Benson Limited

In the unsettled financial markets of recent years, the ability to adapt to changing conditions, which has been important throughout the history of merchant banks, was again demonstrated in 1976. I am therefore pleased to be able to report a year of consolidation and of progress.

A particularly satisfactory aspect of our banking activities has been the increase in sterling acceptance credit and loan facilities which we have made available to British companies to finance working capital and investment. Despite the difficulties caused for London based banks by the restrictions which have been imposed to defend a debilitated currency, our banking business earned profits in 1976 appreciably higher than those of any other year, notwithstanding the degree of caution we have been exercising in selecting the area and credit risks undertaken, and the conservative position adopted by our money desks in financing them.

The activities of our Project Department were expanded in 1976. Contracts were concluded covering around £142 million of finance for exports of British goods and services to four countries. Advisory assignments relating to large projects continued with the Governments of Hong Kong and Venezuela, and new advisory contracts were entered into with an agency of the Iranian Government and with private clients in Britain, Italy and Japan.

The year has also been a successful one for our Investment Division. We have increased the funds under management, and the income we derive from this business is significantly above last year's level, while direct expenses have been contained. The funds which we advise, comprising investments in the United Kingdom and overseas, including our offshore funds, have again done well this year.

The Corporate Finance Division had a record year in terms of revenue earned. The flow of rights issues which began in the second half of 1975 continued through the early part of 1976 and this was followed in the latter half of the year by a renewal of merger activity in which we played an active part. More money was raised on the Eurobond market in 1976 than in any previous year.

During the year, the Hamilton Brothers consortium drilled a further production well in the North Sea which enabled the output from the Argyll Field, in which we hold a 23 per cent interest, to be increased to an average of 22,000 barrels per day. We anticipate a significant continuing revenue from this source for the next few years. Despite the reduced activity in the precious metals markets in 1976, Sharpe Pixley, our bullion dealing subsidiary in London and New York, again produced satisfactory results. Our 51 per cent owned subsidiary, Sharpe Pixley Wardley Limited, commenced business in Hong Kong in March 1976 and has made an encouraging start. The commodity trading and broking subsidiaries both produced record profits.

Our overseas offices have all had an active year. The companies in Jersey and Guernsey have again achieved excellent results, with those in Belgium and Switzerland also earning increased profits. In the Middle East, the reorganisation of our activities is bearing fruit in a number of fields.

At the end of 1976, we completed an agreement with Goldman, Sachs & Co. and their investment management team, as a result of which Kleinwort Benson McCowan Incorporated, a registered investment adviser in which we have a 40 per cent interest, has come into existence in New York and is developing well.

World trade in 1977 is not increasing as much as many had hoped, and the fact that interest rates in other countries are at lower levels than have been seen for some years is the result of subdued demand for loans from industry and commerce, which in turn reflects a low level of activity. In the United Kingdom, the expected benefits from the development of North Sea oil and gas are counter-balanced by an increasingly uneasy political and industrial picture. It is difficult to be optimistic while this continues, but I am confident that the strength of our organisation and the breadth of our operations will ensure another active year.

R. A. HENDERSON

20 Fenchurch Street, London EC3P 3DR

JERSEY • GUERNSEY • BRUSSELS • GENEVA • PARIS • ROME • NEW YORK • CHICAGO • TOKYO
HONG KONG • SINGAPORE • BAHRAIN • TEHRAN

Business appointments

Six executive directors at S G Warburg & Co

The following have been appointed executive directors of S. G. Warburg & Co with effect from April 1: Mr A. A. Brandt, Mr J. F. Duffin, Mr J. A. Goodwin, Mr T. N. Harrison-Topham, Mr R. G. Ward and Mr G. E. J. Wood.

Mr Bryan Baker has become chairman and chief executive of Tarmac Roadstone Holdings and chairman of Tarmac Building Products. Mr Roy Kettle becomes managing director of Tarmac Roadstone Holdings and Mr Bill Drayton becomes secretary. Mr Peter Woodman has been made a director.

Viccount Sandon has joined the board of Shephardz Engineering. Mr M. C. Thomas has been made chairman and chief executive of Beechwood Construction (Holdings). Mr J. E. Scott-Moncrieff has been made chairman and director.

Mr R. J. Lupini has been appointed to the board of Liosidistics. Jack Frame, deputy chairman of Frames Towers, has been made chairman in succession to his cousin, Mr J. Wallace Frame, who has retired but who remains a director and has been made president of the company.

Mr A. G. Fowler has joined the board of Deacons & Sons. Mr Morris Abbott has succeeded Mr Francis Perkins as chairman of Hogg Robinson Group. Mr Abbott remains chief executive.

Mr L. Dyer, who is seconded from Lloyds Bank, has been appointed to the board of First National Finance Corporation. Mr G. H. Birch, who is seconded from Midland Bank, has also joined the board.

Mr P. E. Doyle has become chairman of Booker McConnell's general engineering division and of its sugar machinery manufacturing subsidiary, Archer and Stewart, in succession to Mr N. A. D. Sharvell. Mr Doyle continues as chairman of Fletcher Sunlight Wild and of Central Wagon.

Mr T. Flynn and Mr D. Newman have joined the board of Tremetris Holdings. Both will remain managing directors of, respectively, Shepherd Bros (Lancs) and P. A. Snodden and Sons (Engineering).

Sir David Nicolson has joined the board of Drayton Consolidated Trust. Mr Stuart Wallis joins the board of Heston.

Mr B. de Saint-Amant has been made a member of committee in Paris of Ottoman Bank. Mr A. McPhee has been made an additional director of Prestige Group.

Mr John Labrey and Mr David Newlove have been appointed executive directors of K. Kelvin Watson.

Mr G. R. Satterthwaite has become a director and company secretary of Cammell Tunn Glass and Mr P. C. Halliday becomes sales director.

Mr P. B. Brothie, Mr H. M. Bull, Mr J. S. Duffin, Mr G. Marshall and Mr R. W. Smith have been made directors of Blue Circle Insurance Services, which has been formed by the Blue Circle Group and J. H. Minet.

Mr William Milnes has become a director of Deas M. Clayton.



Mr Bryan Baker (left), the new chairman and chief executive of Tarmac Roadstone Holdings; Mr A. G. Fowler, who has joined the board of Dorman Smith Holdings.

Mr T. R. Dawson and Mr I. P. Methrell have become directors of T. R. Dawson (Corporate Consultants).

Mr George Hogg is to be a full-time chairman of Industrial Tribunals in the London central region.

The following have been made directors of Alexander Howden Insurance Brokers: Mr J. E. Givon, Mr R. P. Morgan, Mr W. F. Rose, Mr A. F. Sellman, Mr D. S. Stocks and Mr P. M. J. Williams.

Mr R. D. Hall has become chairman and Mr F. B. Mortimer-Ford managing director of Horace Cory. Mr Mortimer-Ford was previously joint managing director.

Mr Arthur Knapp has joined the board of Footwear Industry Investments.

Mr S. J. Meek, who has retired as a director and chairman of Fletchall Castors and Wheels, has been succeeded as chairman by Mr J. P. Cowell, who continues as a non-executive director jointly with Mr L. A. Duck.

Mr Roger Boydland joins the main board of Kempt Group (Printers & Publishers) with special responsibility for finance. Mr Anthony Boram has been made chairman of Mirror Books, a wholly-owned new subsidiary of Mirror Group Newspapers. Mr Peter Dutton will be deputy chairman and Mr Peter Robins managing director.

Mr Andrew Preston has been made director of Price and Pierce (Woodpulp).

FINANCIAL NEWS AND MARKET REPORTS

Euromarkets

Several new Eurobond issues are being placed in the market, with prices last week, suggesting that portfolio managers are getting nervous about the too much cash, writes Dow Jones.

In particular, high-coupon issues were favoured. A \$50m issue of EMI Finance, a financing subsidiary of British electronics and communications group, rose to 151.01. The issue was offered at a hefty 9.25 per cent coupon. Another \$50m issue of Singer International, a US electronics and communications group, rose to 100.75-101.25. The issue was offered at a hefty 9.25 per cent coupon. A \$50m issue of Singer International, a US electronics and communications group, rose to 100.75-101.25. The issue was offered at a hefty 9.25 per cent coupon.

Eurobond prices (yields and premiums)

Country	Issue	Yield	Premium
France	1980	10.50	0.50
France	1981	10.50	0.50
France	1982	10.50	0.50
France	1983	10.50	0.50
France	1984	10.50	0.50
France	1985	10.50	0.50
France	1986	10.50	0.50
France	1987	10.50	0.50
France	1988	10.50	0.50
France	1989	10.50	0.50
France	1990	10.50	0.50
France	1991	10.50	0.50
France	1992	10.50	0.50
France	1993	10.50	0.50
France	1994	10.50	0.50
France	1995	10.50	0.50
France	1996	10.50	0.50
France	1997	10.50	0.50
France	1998	10.50	0.50
France	1999	10.50	0.50
France	2000	10.50	0.50
France	2001	10.50	0.50
France	2002	10.50	0.50
France	2003	10.50	0.50
France	2004	10.50	0.50
France	2005	10.50	0.50
France	2006	10.50	0.50
France	2007	10.50	0.50
France	2008	10.50	0.50
France	2009	10.50	0.50
France	2010	10.50	0.50
France	2011	10.50	0.50
France	2012	10.50	0.50
France	2013	10.50	0.50
France	2014	10.50	0.50
France	2015	10.50	0.50
France	2016	10.50	0.50
France	2017	10.50	0.50
France	2018	10.50	0.50
France	2019	10.50	0.50
France	2020	10.50	0.50
France	2021	10.50	0.50
France	2022	10.50	0.50
France	2023	10.50	0.50
France	2024	10.50	0.50
France	2025	10.50	0.50
France	2026	10.50	0.50
France	2027	10.50	0.50
France	2028	10.50	0.50
France	2029	10.50	0.50
France	2030	10.50	0.50

Weekly list of fixed interest stocks

Company	Price	Yield
Barclays Bank	91%	
Consolidated Credits	91%	
First London Secs	113%	
C. Hoare & Co	91%	
Lloyds Bank	91%	
Midland Bank	91%	
Nat Westminster	91%	
Rossminster Acc's	113%	
Shenley Trust	14%	
Williams & Glyn's	91%	
4-day deposits on sums of \$10,000 and under, 5% up to \$100,000, 6% over \$100,000, 6.5% over \$250,000.		

Bank Base Rates

Bank	Rate
Barclays Bank	91%
Consolidated Credits	91%
First London Secs	113%
C. Hoare & Co	91%
Lloyds Bank	91%
Midland Bank	91%
Nat Westminster	91%
Rossminster Acc's	113%
Shenley Trust	14%
Williams & Glyn's	91%

M. J. NIGHTINGALE & CO. LIMITED

62-64 Threadneedle Street, London

Company	Price	Yield
1750 Airsprung Ord	35	42.10
1750 Airsprung 18% CULS	30	42.10
1750 Airsprung & Rhodes	30	42.10
1463 Deborah Ord	109	14.2
250 Deborah 17% CULS	125	10.7
4692 Henry Wykes	55	2.2
1179 James Burroughs	81	1.6
2489 Robert Jenkins	244	10.3
3205 Twinklock Ord	15	1.1
1638 Twinklock 12% ULS	61	12.0
2436 Unilock Holdings	36	2.7
4864 Walter Alexander	77	5.8

Freight report

The path of decline for tanker rates on vessels trading out of the Gulf continued as expected with levels for vice shipping back to at least worldscale 25. This represents a fall of between three and four points in just one week and brokers feel that further shipping could occur especially with the approach of Easter which always brings a lull in trading.

Even without Easter the prospects for rates are far from bright. Brokers were pointing out that at the start of last week in addition to five vessels still available for March loadings, another 40 or more were waiting or due to arrive in the Gulf for April cargoes.

The only bright spot last week was the entry of Shell and Amoco into the market early on for vices. Both were after early April loadings and were waiting for their requirements had been met with each paying worldscale 25.

Some interest was also shown by vices with Elf being rumoured as seeking an Arab-owned 300,000-tonner for two consecutive voyages at worldscale 22.5/23.

With the other market sectors trading at a low pitch and the volume of new inquiry throughout being limited, brokers foresee that the market is settling down for the Easter making the immediate outlook somewhat dull.

The situation in the dry cargo market is little better. With a depressed tone owners are struggling against charterers' ideas of what rate levels should be.

David Robinson

Pergamon peak

Net profits in 1976 increased from £15,000 to £22,500, are reported by Pergamon Press. External sales were £12.7m against £9.2m and exports were up from £6.2m to £9.2m. Earnings a share came out at 17p compared with 4.5p. After this best-ever year, the chairman is confident of further good results in the present term.

Unit Trust Prices—change on the week

FT Index change on week 4125-56 (13%)

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Reading between the lines of The Anglo/Randsel takeover

Over and above the many uncertainties mining investors have had to come to terms with in the past two years, stock market decisions have become even more of a hit-or-miss affair because of the interruption to the normal investment patterns in the world mining industry.

After the over-expansion of the late 1960s demand should have picked up strongly enough to have stimulated a fresh bout of activity in about 1974-75.

Rapid escalation in development costs, faltering economic recovery and government action to ensure that in future much of the cream from the sort of commodity-price explosion seen in 1972-74 should come to them, quickly put a stop to that.

So the next critical date in the supply-demand balance looks as though it is due in 1979-80 and the danger to the future availability of supplies is one of the themes echoed in the clutch of annual reports from several mining groups last week.

Palabora, for instance, warned that it would cost more than twice as much to build a comparable mine nowadays and that was not justified by current copper prices while Amex argued that future supplies may be "restricted by shortages of capital and escalating costs".

While I am not quite as bearish as they appear to be on metal prices I do share their concern about the future health of the mining industry.

Which brings me round to Anglo American's proposed takeover of its first cousin Rand Selection, where one of the principal justifications appears to be the need to build up a company of sufficient financial strength to be able to two international capital markets and take on the size of projects that

are likely to be necessary in the 1980s.

Certainly with South Africa downgraded as a credit risk in the wake of the Soweto riots, the sheer cost of new mines and possible competition from the oil companies, Anglo American needs all the strength the R1,750m of net assets it will control after the merger can provide.

For the rest I would not put too much credence on the other reasons advanced for the takeover. True there may be some rationalization benefits—there's no doubt that on occasion management initiative in Anglo has

atrophied through fear of trading on someone else's toes in the organization while the multi-divisional structure complicates policy on the investments side.

But following the Schlesinger takeover and the constant cash drain that caused Randsel has lost its role in the Anglo set-up. One might say that the Harry Oppenheimer as yet another equity base from which to boost the whole Anglo group's gearing Randsel's commitments to Schlesinger make it impossible to share in any of Anglo's new mining ventures.

As for simplifying the structure of the group, well, it has never been one of the mining houses' strong suits and I still feel more at home in Hampton Court maze than with the post-merger diagram in the offer document.

In any case the real key to the Anglo lines of control lies with E. Oppenheimer & Son, the private company that holds the Oppenheimer family interest. Through more than a 10 per cent stake in Anglo American itself, the family effectively controls the whole group, thanks in part to the reshuffle of JCI and Charter for Anglo American shares.

For once, however, in an

Mining

Anglo in-house deal the arithmetic of the takeover appears fair to all sides, given Randsel's obvious difficulties while Anglo shareholders will suffer little or no earnings, dividend or asset dilution.

And De Beers is using only a small proportion of its immense cash balances to purchase Anglo shares at a big discount to asset value while at the same time the pure diamond interests are not being unduly diluted.

In return, it is now apparent that De Beers has emerged as the twin pillar of the whole empire with Charter Consolidated relegated to the third eleven.

Of course the most interesting question, and one that Mr Oppenheimer was anxious to pour cold water on last week, is whether or not the Randsel move presages any further rationalization. Certainly, the enlarged stakes Anglo American now has in other group companies makes equity accounting possible should the balance sheet need to be beefed up any more although the tax problems involved—as Barlow Rand, General Mining and more recently Union Corporation have found—can be a real headache.

As for how the Anglo companies outside South Africa slot into the grand design I do not fully see how Anglo American is going to spearhead the push into international mining given South Africa's exchange controls which led to the setting up of Charter in the first place.

I gather that Charter's role has caused much soul-searching at 44 Main Street but the difficulties of setting it in with Amcan and Minorco have so far proved intractable.

Ronald Patten

The Wall Street and Canadian stock prices given in the table relate to Friday's close. Later publication of the figures will change to British Summer Time. This will continue until Eastern Daylight Time begins in the United States.

Foreign exchange, sterling, spot, was up 2.05 at 166.50. The futures was up 2.05 at 166.50. The dollar, spot, was up 0.05 at 1.05. The futures was up 0.05 at 1.05.

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